

WBS No: 1AAG  
Activity ID: 1A3515AE21

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

WBS No: 1AAG		Title: Wet Residues												
Activity ID: 1A3515AE21		Description: Rm 3515 Mods - WIPP Equipment Testina						Cost Risk		2 Schedule Risk		4		
Line Item	Description			Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
01	Engr. Equip Testina. Project Support			0.15	each	EE	765	114	3.738	0	0	3.738	1.824	5.562
Total for Activity 1A3515AE21:								114	3.738	0	0	3.738	1.824	5.562

**Line Item 01 - Engr, Equip Testing, Project Support**

**BOE**

Estimators Experience - Fluorides Project Manager  
Experience Item Desc -  
1. Design and Engineering Support. This activity provides for the Engineering that will be required to develop the overall design layout, the design of specific work orders, oversight of maintenance activities, system testing, construction support, operational support, address the overall project engineering, and provide input to the administrative activities. 70% will be done in FY99, 29% in FY00 and 1% in FY01. This will require Mechanical Engineering (S160, E070) for ¼ FTE, Electrical Engineering (S160, E040) for ¼ FTE, Instrumentation Engineering (S160, E130) for 1/8 FTE, Industrial (operations) Engineer (S160, E060) for 1/8 FTE, Structural Engineering (S160, E130) for 1/8 FTE, Crit. Engineering (S121,E080) for 1/4 FTE, and Rad Engineering (S158, E125) for 1/3 FTE.  
2. Room 3515 equipment testing: This activity accounts for the testing of the new equipment and systems installed into room 3515. It requires Engineering support as well as operator support to run the equipment. The Engineering support for equipment testing is addressed elsewhere. The operations and craft support for this activity will require Operators (S167, T080) for 160 hrs and Electricians (S167, C020) for 120 hrs, Forman (S163, M010) 80 hrs.  
3. Project Support: The provides for non-Engineering support for the project to address several miscellaneous activities such as training, administrative requirements and input, miscellaneous room clean-ups, etc. It will require Administrative support (S163, G040) for 60 hrs, Training Administrative support (S170, G040) for 200 hrs, H&S Support (S159, P080) for 100 hrs, (S159, P090) for 100 hrs, and (S159, E120) for 450 hrs, QA support (S131, T110) for 200 hours, Craft support for cleanup and miscellaneous activities (S163, T080) for 160 hrs, (S163, R060) for 160 hrs, and Forman support (S163, M010) for 160 hrs.  
Breakdown of Cost Data:  
Item - ea  
Units - hrs  
Unit Cost - \$/hr  
Unit Cost Adjustment factor - n/a  
Revised Unit Cost - n/a  
Basis for adjustment - n/a

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C020	ELECTRICIANS	KA20H	371/374 Facility Maint Steelworkers	Linear	120.00	Hours
Factors	120 hrs		1					
750	STRAIGHT TIME BASE	E040	ELECTRICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	130.50	Hours
Factors	130.5 hrs		1					
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	263.90	Hours
Factors	263.9 hrs		1					
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	120.00	Hours
Factors	120 hrs		1					
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	130.50	Hours
Factors	130.5 hrs		1					

Activity ID: 1A3515CN11 Description: Rm 3515 Mods - WIPP IWCP Constr/Installation

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
01	Stripout. mtce. & Constr	0.15	each	EE	4.683	700	14.996	0	0	14.996	7.318	22.314
02	Planning	0.15	each	EE	0	0	0	8.196	0	8.196	0	8.196
Total for Activity 1A3515CN11:						700	14.996	8.196	0	23.192	7.318	30.510

**Line Item 01 - Stripout, mtce, & Constr**

**BOE**

Estimators Experience - Fluorides Project Manager  
Experience Item Desc -  
03 - Repairing I/O Station #3. The required repairs to I/O Station #3 will be identified in the Engineering Study. The following resources provide for completing the repairs providing that the required repairs are not major or extensive. If significant problems are found to exist with the Station, additional resources may be needed. Operators - (S163, T080), 60 hrs, (S160, R060) 60 hrs, RCT Support (S158, T050) 160 hrs, Planners (S167, P070), 80 hrs, 2 Electricians (S167, C020 ) (2) for 120 hrs (total), Machinists (S167, C060), 80 hrs, Pipefitter (S167, C080) 80 hrs, Other Technicians (S167, T040) 120 hrs, and material and equipment costs of \$100,000.

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Starts In FY \*

04 - Room 3515 equipment testing: This activity accounts for the testing of the new equipment and systems installed into room 3515. It requires Engineering support as well as operator support to run the equipment. The Engineering support for equipment testing is addressed elsewhere. The operations and craft support for this activity will require Operators (S167, T080) for 160 hrs and Electricians (S167, C020) for 120 hrs, Forman (S163, M010) 80 hrs.

06 - Miscellaneous Equipment and Work Orders: During the course of construction additional items will likely be identified that require issuing additional work orders. The following support is included to address these activities. It is assumed that only a few items with minor scope will be identified. If significant problems are identified, or if a large number of items are identified, additional resources would be required. Operator Support (S167, T080) 60 hrs, RCT support (S158, T050) 120 hrs, Carpenters (S167, C010) 60 hrs, Machinists (S167, C040) 80 hrs, Pipefitters (S167, C080) 60 hrs, Metal Workers (S167, C090) 80 hrs, Planners (S167, P070) 40 hrs, Forman (S167, M010) 40 hrs, and material and equipment costs of \$100,000.

07 - Shielding: Additional shielding will be required to protect the operator from exposure to the material in or outside of the box. This shielding will be attached to the outside of the glove box, or fabricated into standalone shielding. The following support is based on fabrication or installation of a few shields. If a complicated shield or a significant number of shields are identified, additional resources will be required. Operator Support (S167, T080) 30 hrs, (S167, R060) 30 hrs, Carpenters (S167, C010) 60 hrs, Machinists (S167, C040) 120 hrs, Metal Workers (S167, C090) 10 hrs, RCT Support (S158, T050) 40 hrs, Planners (S167, P070) 40 hrs, Forman (S167, M010) 30 hrs, equipment and material costs \$5,000.

10.5 - Installation of Equipment: This activity allows for the installation of the new equipment into the glove box once the clean-out and preparation work is complete. The Project Manager has estimated that K-H Construction can perform the work for \$148,500.

11 - Modify Criticality Drain. The existing crit. drain in GB32 does not conform to the existing plant standard. Because of this, the drain has been modified before the box becomes operational. All that remains is to close out the IWCP package. Engineering (S160, E070) 30 hours, Planner (S167, P070) 40 hrs.

12 - Fabricate metal table, transfer cart, shielding cabinet, transition piece, cooling box, scrubber connection, pans, and containers. These items are necessary in order to allow for GB operations. Pipe fitters (2) (S167, C080) 160 hrs (total), Metal Workers (2) (S167, C090) 280 hrs (total), Machinists (2) (S167, C040) 440 hrs (total), Planner (S167, P070), 40 hrs, Forman (S167, M010) 80 hrs, equipment and material cost of \$5,000.

15 - Waste Managment Support: The waste that will be generated from the clean-out work and room modifications will require support to address paperwork, material movement, tracking, and disposal. Forman (S167, M010) 160 hrs, Operators (S167, R060) 240 hrs, Environmental Engineer (S159, E050) 160 hrs, H&S support (S159, P090) 160 hrs, Waste disposal costs (assume 30 drums @ 5,000/drum) = \$150,000.

16 - HEPA tie-ins and balancing. Tie-in and balancing of the HVAC system will be required. Filter techs (S169, R080) 24 hrs, RCT (S158, T050) 10 hrs, Supervisors (S169, M010) 10 hrs.

Breakdown of Cost Data:  
Item - ea  
Units - hrs  
Unit Cost - \$/hr  
Unit Cost Adjustment factor - n/a  
Revised Unit Cost - n/a  
Basis for adjustment - n/a

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C010	CARPENTERS	KA20H	371/374 Facility Mgmt Steelworkers	Linear	1,235.00	Hours
Factors	1235	hrs						
750	STRAIGHT TIME BASE	C020	ELECTRICIANS	KA20H	371/374 Facility Mgmt Steelworkers	Linear	18.00	Hours
Factors	18	hrs						
750	STRAIGHT TIME BASE	C040	MAINTENANCE MACHINIST (incl Exp	KA20H	371/374 Facility Mgmt Steelworkers	Linear	1,510.00	Hours
Factors	1510	hrs						
750	STRAIGHT TIME BASE	C080	PLUMBERS AND PIPEFITTERS	KA20H	371/374 Facility Mgmt Steelworkers	Linear	699.00	Hours
Factors	699	hrs						
750	STRAIGHT TIME BASE	C090	STRUCTURAL AND METAL WORKE	KA20H	371/374 Facility Mgmt Steelworkers	Linear	826.00	Hours
Factors	826	hrs						
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	32.00	Hours
Factors	32	hrs						
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	10.00	Hours
Factors	10	hrs						
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	353.00	Hours
Factors	353	hrs						

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**Line Item 02 - Planning**

BOE	Based on Combustibles FY98 requirements:											
	1. 1 Full-time first-line supervisor											
	2. 1 Full-time subcontracted engineer for Technical Project Management											
	3. 1/4 FTE Rad Engineer for general project support											
	4. 2 ea of 1/3 FTE subcontracted technical engineers											

Resources	Cost Element		Skill		Department		Curve		Quantity	Units
	A57	LATA	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear		51.840.00	Dollars
	Factors	1	Planner	60	hours/mo	12	mo/year	72	\$/hour	
	A58	ASI	0000	NONE	SA01S	SSOC 371 Closure Project	Linear		3.000.00	Dollars

Factors 3000 Dollars/Year

Activity ID: 1AW2011000 Description: FY00 Wet Combustibles Box N Go

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1AW2011000-02	BNG Prep: Initial Engineering	0.88	each	HC	200	177	7.657	8.857	0	16.514	3.737	20.251
1AW2011010-01	SWB Engr: Engineering Support	0.31	ea	HC	0	0	0	190.763	0	190.763	0	190.763
1AW2011020-01	RTR BNG Drums: RTR Support (102 drums)	0.52	ea	HC	1.200	626	12.723	0	0	12.723	6.209	18.932
1AW2011120-21	HSGS: Receive & Store @ Storage Fac	68.13	ea	HC	0	14	376	0	0	376	184	560
1AW2011120-22	HSGS: Stage & Transfer to HSGS	68.13	ea	HC	0	20	564	0	0	564	275	840
1AW2011120-23	HSGS: Receive & Stage for HSGS	68.13	ea	HC	0	20	564	0	0	564	275	840
1AW2011120-24	HSGS: Support	68.13	ea	HC	1	68	2.714	0	0	2.714	1.325	4.039
1AW2011210-01	GGT BNG: Operate GGT (58 drums)	17.70	con	HC	11	200	4.068	0	0	4.068	1.985	6.054
1AW2011320-14	NDA BNG: Operate NDA - 1st Shift	0.09	ea	HC	0	0	0	0	0	0	0	0
Total for Activity 1AW2011000:						1.126	28.668	199.620	0	228.287	13.990	242.277

**Line Item 1AW2011000-02 - BNG Prep: Initial Engineering**

BOE	Historical Data Source - Actual costs of Wet Combustibles Gas Generation Testing Engineering											
	Item Desc - Estimate of all Box N Go operations, design of standard waste box spider, criticality and nuclear safety designs											
	Breakdown of Historical Data:											
	Item - Gas Generation Testing engineering											
	Units -											
	Unit Cost -											
	Unit Cost Adjustment factor -											

Revised Unit Cost -  
Basis for adjustment -

Resources	Cost Element		Skill		Department		Curve		Quantity	Units
	750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear		200.00	Hours
	Factors	1	Crit. Engineer	200	hours					
	A57	LATA	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear		10.010.00	Dollars

Factors 1 Proj. Engineer

130 hours

77 \$/hour

**Line Item 1AW2011010-01 - SWB Engr: Engineering Support**

BOE	Engineering support to Gas Generation Testing Operations for Standard Waste Boxes											
	Subject matter expert on Gas Gen. Testing apparatus											
	Project administrator manages movement of drums through RTR, HSGS, and Gas Generation Testing, coordinates efforts between B371, B776 and analytical services.											

Resources	Cost Element		Skill		Department		Curve		Quantity	Units
	A57	LATA	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear		616.000.00	Dollars
	Factors	4	Engineers	2000	hours/year	77	\$/hour			

**Line Item 1AW2011020-01 - RTR BNG Drums: RTR Support (102 drums)**

BOE	Historical Data Source - Wet Combustibles FY99 Operations											
	Item Desc - Real Time Radiography											

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Breakdown of Historical Data:  
Item -  
Units -  
Unit Cost -  
NMH&C crew X-raying drums 1200.00 2 fte  
NMH&C foreman supervising X-ray 600.00 1 fte  
RTR machine rental or SRS use 240000.00 contract machine ops  
  
Unit Cost Adjustment factor -  
Revised Unit Cost -  
Basis for adjustment -

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	1,200.00	Hours
Factors	1200	Hours				

**Line Item 1AW2011120-21 - HSGS: Receive & Store @ Storage Fac**

BOE Resources are for receiving and storing one drum at Building 991.

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	0.20	Hours
Factors	0.2	hr/drum				
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KF10H Matl Steward Steel Workers	Linear	0.00	Hours
Factors	2.5	hrs/drum	0 5/31 M.S. Dbl Bdat			

**Line Item 1AW2011120-22 - HSGS: Stage & Transfer to HSGS**

BOE Resources are for staging and transportation of one drum from B991 storage to B777 for sampling.

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	0.30	Hours
Factors	0.3	H				

**Line Item 1AW2011120-23 - HSGS: Receive & Stage for HSGS**

BOE Resources are for receiving and staging one drum in B991 for sampling. Sampling and analysis costs are not included.

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	L070 MISSION SUP SPEC III	KF10H Matl Steward Steel Workers	Linear	0.00	Hours
Factors	0.2	H	0 5/31 M.S. Dbl Bdat			
	750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	0.30	Hours
Factors	0.3	H				
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KF10H Matl Steward Steel Workers	Linear	0.00	Hours
Factors	0.35	H	0 5/31 M.S. Dbl Bdat			

**Line Item 1AW2011120-24 - HSGS: Support**

BOE Estimators Experience - Scott Anderson, Waste & Remediation Operations  
Experience Item Desc - FY 1999 TRU Waste Characterization Activities  
Breakdown of Cost Data:  
Item - HSGS  
Units - 1,250 drums  
Unit Cost - See BOE Backup  
Unit Cost Adjustment factor - 1.0  
Revised Unit Cost -  
Basis for adjustment -  
  
Assumptions:  
1,250 drums will be available for Head Space Gas Sampling

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	M020 MANAGERS (GRADE 69 - 72)	R100S RMRS Salaried	Linear	0.50	Hours
Factors	0.5	Hours				
	750 STRAIGHT TIME BASE	P170 OTHER ADMINISTRATIVE & PROFF	R100S RMRS Salaried	Linear	0.50	Hours
Factors	0.5	Hours				

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750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KF10H	Matt Steward Steel Workers	Linear	0.00	Hours
Factors	2.6	Hours	0	5/31 M.S. Dbl Bdat				
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KF10H	Matt Steward Steel Workers	Linear	0.00	Hours
Factors	1.1	Hours	0	5/31 M.S. Dbl Bdat				

**Line Item 1AW2011210-01 - GGT BNG: Operate GGT (58 drums)**

**BOE**

Based on FY99 historical data from gas generation testing with 15 units in B776:  
To support 15 Gas Gen. Testing Canisters for 1 week  
Process Specialist staging drums, 4fte x 4hrs  
Process Specialist loading/undloading canisters, 4fte x 5hrs  
Process Specialist sampling, 2samples x 1fte x 4hrs  
Lab Tech, 2samples x 1fte x 6hrs  
Foreman supervising, 1fte x 10hrs  
  
For Box N Go: 78 drums required, 1 drum per canister per week  
To complete 77 drums in 20 weeks requires 4 dedicated test canisters.  
  
Process Specialist staging drums, 4fte x 1hr x 20 weeks  
Process Specialist loading/undloading canisters, 4fte x 1.33hrs x 20 weeks  
Process Specialist sampling, 2samples x 1fte x 1hr x 20 weeks  
Lab Tech, 2samples x 1fte x 1.6hrs x 20 weeks  
Foreman supervising, 1fte x 2.67hrs x 20 weeks

**Resources**

Cost Element			Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	9.32	Hours
Factors	4	Process Specialists	2.33	hrs/wk					
750	STRAIGHT TIME BASE		R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	2.00	Hours
Factors	1	Process Specialist	2	samples/week	1	hr/sample			

**Line Item 1AW2011320-14 - NDA BNG: Operate NDA - 1st Shift**

**BOE**

Benchmark Source - FY98 budget call, NDA department  
Benchmark Item Desc - FY99/00 NDA of Repack Drums  
Breakdown of Benchmark Data:  
Item - NDA in FY00 386 Wet Combustibles Repack drums  
Units -  
Unit Cost -  
Unit Cost Adjustment factor - 0.15  
Revised Unit Cost -  
Basis for adjustment - 386 drums NDA in FY00, 58 Box N Go Drums NDA

**Resources**

Cost Element			Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		R010	CHEMICAL SYSTEMS OPERATOR (	KF10H	Matt Steward Steel Workers	Linear	0.00	Hours
Factors	4	PS (2 SNM, 2Wet)	25	hrs/wk	52	wks/vr	0	5/31 M.S. Dbl Bdat	

Activity ID: 1AW2011010

Description: FY01 Wet Combustibles Box N Go

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1AW2011010-01	SWB Engr: Engineering Support	0.20	ea	HC	0	0	0	125.358	0	125.358	0	125.358
1AW2011020-01	RTR BNG Drums: RTR Support (102 drums)	0.34	ea	HC	1.200	403	8.194	82.536	0	90.730	3.909	94.639
1AW2011120-21	HSGS: Receive & Store @ Storage Fac	44.24	ea	HC	0	9	244	1.425	0	1.670	117	1.786
1AW2011120-22	HSGS: Stage & Transfer to HSGS	44.24	ea	HC	0	13	366	2.810	0	3.177	175	3.352
1AW2011120-23	HSGS: Receive & Stage for HSGS	44.24	ea	HC	0	13	366	1.405	0	1.771	175	1.946
1AW2011120-24	HSGS: Support	44.24	ea	HC	1	44	1.763	1.405	0	3.168	841	4.008
1AW2011320-14	NDA BNG: Operate NDA - 1st Shift	0.09	ea	HC	0	0	0	0	0	0	0	0
1AW2011520-1	SWB to B371 Dock	0.09	each	HC	337	30	778	0	0	778	371	1.149
1AW2011520-2	Receive SWB at B371 Dock	0.09	each	HC	282	25	638	0	0	638	304	943
1AW2011520-3	Deliver Drums to B371 Dock	95.56	drums	HC	8	764	15.610	0	0	15.610	7.446	23.057
1AW2011520-4	Load Drums into SWBs	95.56	drums	HC	14	1.290	28.746	0	0	28.746	13.712	42.458
1AW2011520-5	SWB Materials	95.56	drums	VQ	0	0	0	286.675	0	286.675	0	286.675
1AW2011620-1	Ship Packed SWB to B664 or B440	0.19	each	HC	110	21	605	0	0	605	289	894
1AW2011620-2	Receive SWB at B664 or B440	0.19	each	HC	55	11	296	0	0	296	141	437

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SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	31.376	31.376	0	31.376
Total for Activity 1AW2011010:						2.624	57.608	501.616	31.376	590.599	27.479	618.079

**Line Item 1AW2011010-01 - SWB Engr: Engineering Support**

BOE	Engineering support to Gas Generation Testing Operations for Standard Waste Boxes  Subject matter expert on Gas Gen. Testing apparatus  Project administrator manages movement of drums through RTR, HSGS, and Gas Generation Testing, coordinates efforts between B371, B776 and analytical services.											
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A57	LATA	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	616,000.00	Dollars
	Factors	4	Engineers	2000	hours/year	77	\$/hour		

**Line Item 1AW2011020-01 - RTR BNG Drums: RTR Support (102 drums)**

BOE	Historical Data Source - Wet Combustibles FY99 Operations Item Desc - Real Time Radiography Breakdown of Historical Data: Item - Units - Unit Cost - NMH&C crew X-raying drums 1200.00 2 fte NMH&C foreman supervising X-ray 600.00 1 fte RTR machine rental or SRS use 240000.00 contract machine ops  Unit Cost Adjustment factor - Revised Unit Cost - Basis for adjustment -											
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	1,200.00	Hours
	Factors 1200 Hours								
	A5H	SUBCONTRACTED SRVS	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	245,479.20	Dollars
	Factors 1.02283 -- FY00 Escalation --		240000 Dollars						

**Line Item 1AW2011120-21 - HSGS: Receive & Store @ Storage Fac**

BOE	Resources are for receiving and storing one drum at Building 991.											
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	0.20	Hours
Factors	0.2	hr/drum							
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR /	KF10H	Matl Steward Steel Workers		Linear	0.00	Hours
Factors	2.5	hrs/drum	0	5/31 M.S. Dbl Bdat					
751	OVERTIME BASE & PRE.	L070	MISSION SUP SPEC III	KF10H	Matl Steward Steel Workers		Linear	0.00	Hours
Factors	0.2	hr/drum	0	5/31 M.S. Dbl Bdat					
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried		Linear	32.22	Dollars
Factors	1.02283	-- FY00 Escalation --	31.5	\$/drum					

**Line Item 1AW2011120-22 - HSGS: Stage & Transfer to HSGS**

BOE	Resources are for staging and transportation of one drum from B991 storage to B777 for sampling.											
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	0.30	Hours
	Factors	0.3	H						
	A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	63.53	Dollars
	Factors	1.02283 -- FY00 Escalation --		62.11	D				

**Line Item 1AW2011120-23 - HSGS: Receive & Stage for HSGS**

BOE	Resources are for receiving and staging one drum in B991 for sampling. Sampling and analysis costs are not included.											
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
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WBS No: 1AAG  
Activity ID: 1AW2011010

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1AAG  
\*

Starts In FY \*

750	STRAIGHT TIME BASE	L070	MISSION SUP SPEC III	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	0.2	H	0	5/31 M.S. Dbl Bdat				
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	0.30	Hours
Factors	0.3	H						
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	0.35	H	0	5/31 M.S. Dbl Bdat				
751	OVERTIME BASE & PRE.	R010	CHEMICAL SYSTEMS OPERATOR (	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	0.105	h	0	5/31 M.S. Dbl Bdat				
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	31.76	Dollars
Factors	31.05	D	1.02283	-- FY00 Escalation --				

**Line Item 1AW2011120-24 - HSGS: Support**

**BOE**

Estimators Experience - Scott Anderson, Waste & Remediation Operations  
Experience Item Desc - FY 1999 TRU Waste Characterization Activities  
Breakdown of Cost Data:  
Item - HSGS  
Units - 1,250 drums  
Unit Cost - See BOE Backup  
Unit Cost Adjustment factor - 1.0  
Revised Unit Cost -  
Basis for adjustment -  
  
Assumptions:  
1,250 drums will be available for Head Space Gas Sampling

**Resources**

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear	0.50	Hours
Factors	0.5	Hours						
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear	0.50	Hours
Factors	0.5	Hours						
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	2.6	Hours	0	5/31 M.S. Dbl Bdat				
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	1.1	Hours	0	5/31 M.S. Dbl Bdat				
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	31.76	Dollars
Factors	1.02283	-- FY00 Escalation --	31.05	Dollars				

**Line Item 1AW2011320-14 - NDA BNG: Operate NDA - 1st Shift**

**BOE**

Benchmark Source - FY98 budget call, NDA department  
Benchmark Item Desc - FY99/00 NDA of Repack Drums  
Breakdown of Benchmark Data:  
Item - NDA in FY00 386 Wet Combustibles Repack drums  
Units -  
Unit Cost -  
Unit Cost Adjustment factor - 0.15  
Revised Unit Cost -  
Basis for adjustment - 386 drums NDA in FY00, 58 Box N Go Drums NDA

**Resources**

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	4	PS (2 SNM, 2Wet)	25	hrs/wk	52	wks/vr	0	5/31 M.S. Dbl Bdat

**Line Item 1AW2011520-1 - SWB to B371 Dock**

**BOE**

Each drum movement has shipping and receiving costs.  
  
Assumptions:  
Repack Ops produces 4 daughter drums and 2 secondary waste drums  
Total of 557 drums to move from other buildigs to B371 or to B776  
Total of 515 drums already in B371  
Drum movements within B371 are budgeted in operations activities  
Fluorides processing drums not included



WBS No: 1AAG  
Activity ID: 1AW2011010

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1AAG  
\*

Starts In FY \*

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	55.00	Hours
Factors	1 Shipping Mar.	55 hrs				
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	112.00	Hours
Factors	1 SNM Proc. Spec.	112 hours				
	750 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLIGI	KA10H 371 Complex Steelworkers	Linear	27.50	Hours
Factors	1 RCT	27.5 hours				
	751 OVERTIME BASE & PRE.	L080 SECURITY GUARDS	W207H Protective Force 5-Days	Linear	55.00	Hours
Factors	1 Security Guard	55 hours				
	751 OVERTIME BASE & PRE.	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	70.00	Hours
Factors	1 SNM Proc. Spec.	70 hours				
	751 OVERTIME BASE & PRE.	T050 RADIATION CONTROL TECHNOLIGI	KA10H 371 Complex Steelworkers	Linear	17.00	Hours
Factors	1 RCT	17 hours				

**Line Item 1AW2011520-2 - Receive SWB at B371 Dock**

BOE See Shipping BOE.

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	55.00	Hours
Factors	1 Shipping Integ. Mar.	55 hours				
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	112.00	Hours
Factors	1 Proc. Spec.	112 hours				
	750 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLIGI	KA10H 371 Complex Steelworkers	Linear	28.00	Hours
Factors	1 RCT	28 hours				
	751 OVERTIME BASE & PRE.	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	70.00	Hours
Factors	1 Proc. Spec.	70 hours				
	751 OVERTIME BASE & PRE.	T050 RADIATION CONTROL TECHNOLIGI	KA10H 371 Complex Steelworkers	Linear	17.00	Hours
Factors	1 RCT	17 hours				

**Line Item 1AW2011520-3 - Deliver Drums to B371 Dock**

BOE RCT for building support 1140.00 4 fte  
NMH&C foreman supervising move 285.00 1 fte  
NMH&C operators moving drums 2280.00 8 fte

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	6.00	Hours
Factors	3 Proc. Spec.	2 hrs/drum				
	750 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLIGI	KA10H 371 Complex Steelworkers	Linear	2.00	Hours
Factors	1 RCT	2 hrs/drum				

**Line Item 1AW2011520-4 - Load Drums into SWBs**

BOE Benchmark Source - FY99/FY00 Wet Combustibles Gas Gen. Testing Operations  
Benchmark Item Desc - Move and load drums into Gas Generation Test Canisters  
Breakdown of Benchmark Data:  
Item - Move and load drums into Standard Waste Boxes  
Units -  
Unit Cost -  
Unit Cost Adjustment factor -  
Revised Unit Cost -  
Basis for adjustment -

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	P170 OTHER ADMINISTRATIVE & PROFE	R100S RMRS Salaried	Linear	4.50	Hours
Factors	1 Cust. Svc. Rep	0.5 2 drums per day	9 hours/day			
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	9.00	Hours
Factors	2 Proc. Spec.	0.5 2 drums per day	9 hours/day			

**Line Item 1AW2011520-5 - SWB Materials**

BOE Vendor Name -  
Vendor Quote -



WBS No: 1AAG  
Activity ID: 1AW2011010

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \* Starts In FY \*

Quote Received by -  
Item being quoted -  
Other Info -  
Availability -

Resources		Cost Element	Skill		Department		Curve	Quantity	Units
A5C	SUPPLIES		0000	NONE	SA01S	SSOC 371 Closure Project	Linear	3.000.00	Dollars
Factors	3000	\$ /SWB							

**Line Item 1AW2011620-1 - Ship Packed SWB to B664 or B440**

BOE	Each drum movement has shipping and receiving costs.
	Assumptions:
	Repack Ops produces 4 daughter drums and 2 secondary waste drums
	Total of 557 drums to move from other buildigs to B371 or to B776
	Total of 515 drums already in B371
	Drum movements within B371 are budgeted in operations activities
	Fluorides processing drums not included

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	55.00	Hours
Factors	1	Shipping Mar.	55	hrs					
750	STRAIGHT TIME BASE		T050	RADIATION CONTROL TECHNOLOGI	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	1	RCT	27.5	hours	0	5/31 M.S. Dbl Bdat			
751	OVERTIME BASE & PRE.		L080	SECURITY GUARDS	W207H	Protective Force 5-Days	Linear	55.00	Hours
Factors	1	Security Guard	55	hours					
751	OVERTIME BASE & PRE.		T050	RADIATION CONTROL TECHNOLOGI	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	1	RCT	17	hours	0	5/31 M.S. Dbl Bdat			

**Line Item 1AW2011620-2 - Receive SWB at B664 or B440**

BOE	See Shipping BOE.												
Resources	<i>Cost Element</i>			<i>Skill</i>			<i>Department</i>			<i>Curve</i>	<i>Quantity</i>	<i>Units</i>	
	750	STRAIGHT TIME BASE		M010	FOREMEN / TEAM LEADS / GROUP			R100S	RMRS Salaried		Linear	55.00	Hours
	<i>Factors</i>	1	Shipping Intea. Mar.	55	hours								
	750	STRAIGHT TIME BASE		T050	RADIATION CONTROL TECHNOLOGI			KF10H	Matl Steward Steel Workers		Linear	0.00	Hours
	<i>Factors</i>	1	RCT	28	hours			0	5/31 M.S. Dbl Bdat				
	751	OVERTIME BASE & PRE.		T050	RADIATION CONTROL TECHNOLOGI			KF10H	Matl Steward Steel Workers		Linear	0.00	Hours
	<i>Factors</i>	1	RCT	17	hours			0	5/31 M.S. Dbl Bdat				

**Line Item SYS - Contingency And Escalation**

BOE										
Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	19.038.48	Dollars
	Factors		19038.5 Dollars							
	ESC	ESCALATION		0000	NONE	ZDEPT	No Department	Linear	12.337.05	Dollars
	Factors		12337.1 Dollars							

Activity ID: 1AW3206085 Description: FY00 Wet Comb. Project Mamnt./WIPP Certification

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Manage Wet Combustibles	0.33	each	HC	0	0	0	52.800	0	52.800	0	52.800
2-GB	Glovebox Operations	0.33	ea	HC	3.700	1.221	41.770	0	0	41.770	20.384	62.154
4-3515	Fluorides Project Managemment	0.33	each	HC	0	0	0	50.820	0	50.820	0	50.820
5-371	Building 371 Support	0.33	each	HC	370	122	3.463	6.600	0	10.063	1.690	11.753
6	Budact/Schedule	0.33	each	HC	2.046	675	19.219	50.630	0	69.849	9.379	79.228
8	WIPP Certification	0.33	each	HC	0	0	0	72.606	0	72.606	0	72.606
9	Tuition Reimbursement	0.33	each	HC	0	0	0	1.155	0	1.155	0	1.155
Total for Activity 1AW3206085:						2.018	64.452	234.611	0	299.063	31.453	330.516

WBS No: 1AAG  
Activity ID: 1AW3206085

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

**Line Item 1 - Manage Wet Combustibles**

BOE One full-time manager and one technical lead based on Combustibles FY98 requirements.

Resources		Cost Element	Skill	Department		Curve	Quantity	Units
A57	LATA		M020 MANAGERS (GRADE 69 - 72)	SA01S	SSOC 371 Closure Project	Linear	160.000.00	Dollars
Factors	1	Project Manager	2000 hrs/vr	1	vr	80	\$/hour	

**Line Item 2-GB - Glovebox Operations**

BOE 1 full-time Engineer to develop WIPP data packages and manage drum movements.

Resources		Cost Element	Skill	Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	1.850.00	Hours
Factors	1	FTE	1850 hrs/vr	1	vr			
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	1.850.00	Hours
Factors	1	FTE	1850 hrs/vr	1	vr			

**Line Item 4-3515 - Fluorides Project Management**

BOE Based on Combustibles FY98 requirements:

1 Full-time subcontracted engineer for Technical Project Management

Resources		Cost Element	Skill	Department		Curve	Quantity	Units
A57	LATA	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	154.000.00	Dollars
Factors	1	fte	2000 hrs/fte	77	\$/hr			

**Line Item 5-371 - Building 371 Support**

BOE One full-time manager and one technical lead based on Combustibles FY98 requirements.

Resources		Cost Element	Skill	Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	P030	BUYERS PROCUREMENT AND CON	SA01S	SSOC 371 Closure Project	Linear	370.00	Hours
Factors	1	Contract Tech. Rep.	1850 hours/year	0.2	20% time			
A57	LATA	P170	OTHER ADMINISTRATIVE & PROFE	SA01S	SSOC 371 Closure Project	Linear	20.000.00	Dollars
Factors	1	Training Admin.-Rork	2000 Hours/Dav	50	Dollars/Hour	0.2	20% of an FTE	

**Line Item 6 - Budget/Schedule**

BOE Based on Combustibles FY98 requirements:

- 1 Budget analyst for 1 fte
- 1 Scheduler for 1/2 fte

Resources		Cost Element	Skill	Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	2.045.66	Hours
Factors	1.02283	-- FY00 Escalation --	2000 hrs/fte	1	FTE			
A57	LATA	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	153.424.50	Dollars
Factors	1.02283	-- FY00 Escalation --	2000 hrs/fte	75	\$/hr			

**Line Item 8 - WIPP Certification**

BOE Historical Data Source - FY99 Wet Combustibles Repack and SGS Can Counting

Item Desc - Manage WIPP Certification Documentation

Breakdown of Historical Data:

Item - WIPP Certification

Units - 1 yr

Unit Cost - 1.25 FTE

Unit Cost Adjustment factor - 1.00

Revised Unit Cost - n/a

Basis for adjustment - n/a

Resources		Cost Element	Skill	Department		Curve	Quantity	Units
A52	TENERA	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	180.018.10	Dollars
Factors	1.02283	-- FY00 Escalation --	1 WIPP Cert. Expert	2000	hours/year	88	\$/hour	
A57	LATA	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	40.000.00	Dollars
Factors	2000	hours/year	0.25 FTE	80	\$/hour			

WBS No: 1AAG  
Activity ID: 1AW3206085

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

**Line Item 9 - Tuition Reimbursement**

BOE	Based on Combustibles FY98 requirements: 1. 1 Budget analyst for 1 fte 2. 1 Scheduler for 1 fte											
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5R	MISC EXPENSES	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	3,500.00	Dollars

Factors 3500 \$/vr Tuition Reimb

Activity ID: 1AW3206090 Description: FY01 Wet Comb. Project Mamnt./WIPP Certification

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Manage Wet Combustibles	1.00	each	HC	3.700	3.700	126.577	160.000	0	286.577	60.377	346.954
2-GB	Glovebox Operations	1.00	ea	HC	3.700	3.700	126.577	0	0	126.577	60.377	186.954
3-3701	Engineering/Tech. Support	1.00	each	HC	0	0	0	376.401	0	376.401	0	376.401
4-3515	Fluorides Project Management	1.00	each	HC	0	0	0	160.000	0	160.000	0	160.000
5-371	Building 371 Support	1.00	each	HC	370	370	10.493	42.502	0	52.995	5.005	58.001
6	Budae/Schedule	1.00	each	HC	1.647	1.647	46.883	159.561	0	206.445	22.363	228.808
8	WIPP Certification	1.00	each	HC	0	0	0	260.018	0	260.018	0	260.018
9	Tuition Reimbursement	1.00	each	HC	0	0	0	3.500	0	3.500	0	3.500
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	85.919	85.919	0	85.919
Total for Activity 1AW3206090:						9.417	310.530	1,161.983	85.919	1,558.433	148.123	1,706.556

**Line Item 1 - Manage Wet Combustibles**

BOE	One full-time manager and one technical lead based on Combustibles FY98 requirements.											
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	3,700.00	Hours

Factors 2 Technical Lead

A57	LATA	M020	MANAGERS (GRADE 69 - 72)	SA01S	SSOC 371 Closure Project	Linear	160,000.00	Dollars
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Factors 1 Project Manager 2000 hrs/vr 1 vr 80 \$/hour

**Line Item 2-GB - Glovebox Operations**

BOE	1 full-time Engineer to develop WIPP data packages and manage drum movements.											
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	1,850.00	Hours

Factors 1 FTE 1850 hrs/vr 1 vrs

750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	1,850.00	Hours
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Factors 1 FTE 1850 hrs/vr 1 vrs

**Line Item 3-3701 - Engineering/Tech. Support**

BOE	One technical engineer based on Combustibles FY98 requirements to finish design input and supervise operations.											
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A52	TENERA	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	376,401.40	Dollars

Factors 1.02283 -- FY00 Escalation -- 2 Project Lead 2000 hr/vr 1 yr 92 \$/hour

**Line Item 4-3515 - Fluorides Project Management**

BOE	Based on Combustibles FY98 requirements: 1 Full-time subcontracted engineer for Technical Project Management											
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A57	LATA	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	160,000.00	Dollars

Factors 1 fte 2000 hrs/fte 80 \$/hr

**Line Item 5-371 - Building 371 Support**

BOE	One full-time manager and one technical lead based on Combustibles FY98 requirements.											
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Resources	Cost Element	Skill	Department	Curve	Quantity	Units
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WBS No: 1AAG  
Activity ID: 1AW3206090

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

750	STRAIGHT TIME BASE	P030	BUYERS PROCUREMENT AND CON	SA01S	SSOC 371 Closure Project	Linear	370.00	Hours
Factors	1	Contract Tech. Rep.	1850	hours/year	0.2	20% time		
A52	TENERA	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	22,502.26	Dollars
Factors	1.02283	-- FY00 Escalation --	1	Admin. Asst.	2000	hours/year	0.25	Quarter time
	44	\$/hour						
A57	LATA	P170	OTHER ADMINISTRATIVE & PROFE	SA01S	SSOC 371 Closure Project	Linear	20,000.00	Dollars
Factors	1	Training Admin.-Rork	2000	Hours/Dav	50	Dollars/Hour	0.2	20% of an FTE

**Line Item 6 - Budget/Schedule**

BOE

Based on Combustibles FY98 requirements:

- 1 Budget analyst for 1 fte
- 1 Scheduler for 1/2 fte

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	1.646.76	Hours
Factors	1.02283 -- FY00 Escalation --		2000	hrs/fte	0.805	FTE		
A57	LATA	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	159.561.50	Dollars
Factors	1.02283 -- FY00 Escalation --		2000	hrs/fte	78	\$/hr		

**Line Item 8 - WIPP Certification**

BOE

Historical Data Source - FY99 Wet Combustibles Repack and SGS Can Counting  
Item Desc - Manage WIPP Certification Documentation  
Breakdown of Historical Data:  
Item - WIPP Certification  
Units - 1 yr  
Unit Cost - 1.25 FTE  
Unit Cost Adjustment factor - 1.00  
Revised Unit Cost - n/a  
Basis for adjustment - n/a

Resources

Cost Element				Skill		Department		Curve	Quantity	Units
A52	TENERA			E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	180,018.10	Dollars
Factors	1.02283 -- FY00 Escalation --			1	WIPP Cert. Expert		2000 hours/year	88	\$/hour	
A57	LATA			E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	40,000.00	Dollars
Factors	2000 hours/year			0.25	FTE		80 \$/hour			
A5H	SUBCONTRACTED SRVS			E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	40,000.00	Dollars
Factors	2000 hours/year			0.25	FTE		80 \$/hour			

**Line Item 9 - Tuition Reimbursement**

BOE

Based on Combustibles FY98 requirements:

- 1 Budget analyst for 1 fte
- 1 Scheduler for 1 fte

Resources

Cost Element			Skill		Department		Curve	Quantity	Units
A5R	MISC EXPENSES		P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	3,500.00	Dollars
Factors	3500	\$/yr Tuition Reimb							

**Line Item SYS - Contingency And Escalation**

BOE

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	51.840.80	Dollars
Factors	51840.8 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	34.078.36	Dollars
Factors	34078.4 Dollars							

Activity ID: 1AW3206102 Description: FY02 Wet Comb. Project Mamnt./WIPP Certification

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
01	Manage Wet Combustibles	0.33	each	HC	3.700	1.221	41.770	52.800	0	94.570	14.745	109.315

WBS No: 1AAG  
Activity ID: 1AW3206102

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \* Starts In FY \*

02-GB	Glovebox Operations	0.33	ea	HC	3.700	1.221	41.770	0	0	41.770	14.745	56.515
03-3701	Engineering/Tech. Support	0.33	each	HC	0	0	0	124.212	0	124.212	0	124.212
04-3515	Fluorides Project Management	0.33	each	HC	0	0	0	55.440	0	55.440	0	55.440
05-371	Building 371 Support	0.33	each	HC	370	122	3.463	14.026	0	17.489	1.222	18.711
06	Budget/Schedule	0.33	each	HC	2.046	675	19.219	54.005	0	73.225	6.784	80.009
08	WIPP Certification	0.33	each	HC	0	0	0	85.806	0	85.806	0	85.806
09	Tuition Reimbursement	0.33	each	HC	0	0	0	1.155	0	1.155	0	1.155
1	Manage Wet Comb.-Close Out	0.33	each	HC	3.700	1.221	41.770	52.800	0	94.570	14.745	109.315
2-GB	Glovebox Operations-Close Out	0.33	ea	HC	1.850	611	20.885	50.820	0	71.705	7.372	79.078
5-371	Building 371 Support-Close Out	0.33	each	HC	370	122	3.463	7.426	0	10.889	1.222	12.111
6	Budget/Schedule-Close Out	0.33	each	HC	1.850	611	17.381	50.630	0	68.011	6.135	74.146
8	WIPP Certification-Close Out	0.33	each	HC	0	0	0	85.806	0	85.806	0	85.806
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	133.264	133.264	0	133.264
Total for Activity 1AW3206102:						5.803	189.722	634.926	133.264	957.913	66.972	1.024.885

**Line Item 01 - Manage Wet Combustibles**

BOE One full-time manager and one technical lead based on Combustibles FY98 requirements.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S SSOC 371 Closure Project	Linear	3.700.00	Hours
Factors	2	Technical Lead	1850 hours/year	1 year			
A57	LATA	M020	MANAGERS (GRADE 69 - 72)	SA01S SSOC 371 Closure Project	Linear	160.000.00	Dollars
Factors	1	Project Manager	2000 hrs/vr	1 vr	80 \$/hour		

**Line Item 02-GB - Glovebox Operations**

BOE 1 full-time Engineer to develop WIPP data packages and manage drum movements.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S SSOC 371 Closure Project	Linear	1.850.00	Hours
Factors	1	FTE	1850 hrs/vr	1 vrs			
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S SSOC 371 Closure Project	Linear	1.850.00	Hours
Factors	1	FTE	1850 hrs/vr	1 vrs			

**Line Item 03-3701 - Engineering/Tech. Support**

BOE One technical engineer based on Combustibles FY98 requirements to finish design input and supervise operations.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A52	TENERA	0000	NONE	SA01S SSOC 371 Closure Project	Linear	376.401.40	Dollars
Factors	1.02283	-- FY00 Escalation --	2 Project Lead	2000 hr/vr	1 yr		
	92	\$/hour					

**Line Item 04-3515 - Fluorides Project Management**

BOE Based on Combustibles FY98 requirements:

- 1 Full-time first-line supervisor
- 1 Full-time subcontracted engineer for Technical Project Management

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A57	LATA	0000	NONE	SA01S SSOC 371 Closure Project	Linear	168.000.00	Dollars
Factors	1	fte	2000 hrs/fte	84 \$/hr			

**Line Item 05-371 - Building 371 Support**

BOE One full-time manager and one technical lead based on Combustibles FY98 requirements.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	P030	BUYERS PROCUREMENT AND CON	SA01S SSOC 371 Closure Project	Linear	370.00	Hours
Factors	1	Contract Tech. Rep.	1850 hours/year	0.2 20% time			
A52	TENERA	0000	NONE	SA01S SSOC 371 Closure Project	Linear	22.502.26	Dollars
Factors	1.02283	-- FY00 Escalation --	1 Admin. Asst.	2000 hours/year	0.25 Quarter time		
	44	\$/hour					

WBS No: 1AAG  
Activity ID: 1AW3206102

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1AAG  
\*

Starts In FY \*

A57	LATA	P170	OTHER ADMINISTRATIVE & PROFE	SA01S	SSOC 371 Closure Project	Linear	20.000.00	Dollars
Factors	1	Training Admin.-Rork	2000	Hours/Dav	50	Dollars/Hour	0.2	20% of an FTE

**Line Item 06 - Budget/Schedule**

BOE

Based on Combustibles FY98 requirements:

- 1 Budget analyst for 1 fte
- 1 Scheduler for 1/2 fte

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	2.045.66	Hours
Factors	1.02283 -- FY00 Escalation --		2000	hrs/fte	1	FTE		
A57	LATA	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	163.652.80	Dollars
Factors	1.02283 -- FY00 Escalation --		2000	hrs/fte	80	\$/hr		

**Line Item 08 - WIPP Certification**

BOE

Historical Data Source - FY99 Wet Combustibles Repack and SGS Can Counting  
Item Desc - Manage WIPP Certification Documentation  
Breakdown of Historical Data:  
Item - WIPP Certification  
Units - 1 yr  
Unit Cost - 1.25 FTE  
Unit Cost Adjustment factor - 1.00  
Revised Unit Cost - n/a  
Basis for adjustment - n/a

Resources

Cost Element				Skill		Department		Curve	Quantity	Units	
A52	TENERA			E130	OTHER ENGINEERS		SA01S	SSOC 371 Closure Project	Linear	180.018.10	Dollars
Factors	1.02283 -- FY00 Escalation --			1	WIPP Cert. Expert		2000	hours/year	88	\$/hour	
A57	LATA			E130	OTHER ENGINEERS		SA01S	SSOC 371 Closure Project	Linear	40.000.00	Dollars
Factors	2000 hours/year			0.25	FTE		80	\$/hour			
A5H	SUBCONTRACTED SRVS			E130	OTHER ENGINEERS		SA01S	SSOC 371 Closure Project	Linear	40.000.00	Dollars
Factors	2000 hours/year			0.25	FTE		80	\$/hour			

**Line Item 09 - Tuition Reimbursement**

BOE

Based on Combustibles FY98 requirements:

- 1 Budget analyst for 1 fte
- 1 Scheduler for 1 fte

Resources

Cost Element			Skill		Department		Curve	Quantity	Units
A5R	MISC.EXPENSES		P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	3,500.00	Dollars
Factors	3500	\$/yr Tuition Reimb							

**Line Item 1 - Manage Wet Comb.-Close Out**

BOE

One full-time manager and one technical lead based on Combustibles FY98 requirements.

Resources

Cost Element			Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	3.700.00	Hours
Factors	2	Technical Lead	1850 hours/year		1	year			
A57	LATA		M020	MANAGERS (GRADE 69 - 72)	SA01S	SSOC 371 Closure Project	Linear	160.000.00	Dollars
Factors	1	Project Manager	2000 hrs/vr		1	vr	80 \$/hour		

**Line Item 2-GB - Glovebox Operations-Close Out**

BOE

1 full-time Engineer to develop WIPP data packages and manage drum movements.

Resources

Cost Element			Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	1.850.00	Hours
Factors	1	FTE	1850	hrs/vr	1	vrs			
A57	LATA		E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	154.000.00	Dollars
Factors	1	FTE	2000	hrs/vr	1	vrs	77	\$/hour	

**Line Item 5-371 - Building 371 Support-Close Out**

BOE

One full-time manager and one technical lead based on Combustibles FY98 requirements.

WBS No: 1AAG  
Activity ID: 1AW3206102

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	P030	BUYERS PROCUREMENT AND CON	SA01S	SSOC 371 Closure Project	Linear 370.00 Hours
Factors	1 Contract Tech. Rep.	1850	hours/year	0.2	20% time	
A52	TENERA	0000	NONE	SA01S	SSOC 371 Closure Project	Linear 22,502.26 Dollars
Factors	1.02283 -- FY00 Escalation --	1	Admin. Asst.	2000	hours/year	0.25 Quarter time
	44 \$/hour					

**Line Item 6 - Budget/Schedule-Close Out**

BOE	Based on Combustibles FY98 requirements:  1. 1 Budget analyst for 1 fte 2. 1 Scheduler for 1/2 fte
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Resources	Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear 1,850.00 Hours
Factors	1850 hrs/fte					
A57	LATA	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear 153,424.50 Dollars
Factors	1.02283 -- FY00 Escalation --	2000	hrs/fte	75	\$/hr	

**Line Item 8 - WIPP Certification-Close Out**

BOE	Historical Data Source - FY99 Wet Combustibles Repack and SGS Can Counting Item Desc - Manage WIPP Certification Documentation Breakdown of Historical Data: Item - WIPP Certification Units - 1 yr Unit Cost - 1.25 FTE Unit Cost Adjustment factor - 1.00 Revised Unit Cost - n/a Basis for adjustment - n/a
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Resources	Cost Element	Skill	Department	Curve	Quantity	Units
A52	TENERA	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear 180,018.10 Dollars
Factors	1.02283 -- FY00 Escalation --	1	WIPP Cert. Expert	2000	hours/year	88 \$/hour
A57	LATA	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear 40,000.00 Dollars
Factors	2000 hours/year	0.25	FTE	80	\$/hour	
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear 40,000.00 Dollars
Factors	2000 hours/year	0.25	FTE	80	\$/hour	

**Line Item SYS - Contingency And Escalation**

BOE										
Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	91.597.79	Dollars
	Factors 91597.8 Dollars									
	ESC	ESCALATION		0000	NONE	ZDEPT	No Department	Linear	41.666.71	Dollars
	Factors 41666.7 Dollars									

Activity ID: 1AW3206235

Description: FY00 Wet Gas Generation Testing

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
01	Operate Gas Generation Testing	10.62	con	HC	74	787	15,975	0	0	15,975	7,796	23,771
21	Receive and Store @ Storage Fac	553.00	each	HC	0	111	3,054	0	0	3,054	1,490	4,544
22	Stage & Transfer to HSGS	553.00	each	HC	0	166	4,580	0	0	4,580	2,235	6,816
23	Receive and Stage for HSGS	553.00	each	HC	1	277	6,727	0	0	6,727	3,283	10,010
24	HSGS Support	553.00	each	HC	1	553	22,032	0	0	22,032	10,751	32,783
31	RTR Support	0.29	ea	HC	1,800	526	11,953	0	0	11,953	5,833	17,786
53	Transport/Stage Support	0.35	ea	HC	279	99	2,730	0	0	2,730	1,332	4,063
Total for Activity 1AW3206235:						2,517	67,051	0	0	67,051	32,721	99,773

**Line Item 01 - Operate Gas Generation Testing**

BOE	Based on FY99 historical data from gas generation testing with 15 units in B776:
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WBS No: 1AAG  
Activity ID: 1AW3206235

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

To support 15 Gas Gen. Testing Canisters for 1 week  
Process Specialist staging drums, 4fte x 4hrs  
Process Specialist loading/undloading canisters, 4fte x 5hrs  
Process Specialist sampling, 2samples x 1fte x 4hrs  
Lab Tech, 2samples x 1fte x 6hrs  
Foreman supervising, 1fte x 10hrs

For 1 unit, hours per week:  
Process Specialist, 2.83 hours/week  
Lab Tech, 1.00 hour/week  
Foreman supervising, 0.67 hour/week

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	74.08	Hours
Factors	74.08 hrs					

**Line Item 21 - Receive and Store @ Storage Fac**

BOE Resources are for receiving and storing one drum at Building 991.

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	0.20	Hours
Factors	0.2 hr/drum					

**Line Item 22 - Stage & Transfer to HSGS**

BOE Resources are for staging and transportation of one drum from B991 storage to B777 for sampling.

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	0.30	Hours
Factors	0.3 H					

**Line Item 23 - Receive and Stage for HSGS**

BOE Resources are for receiving and staging one drum in B991 for sampling. Sampling and analysis costs are not included.

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	L070 MISSION SUP SPEC III	KA40H 371 Wet Combustibles Steelworkers	Linear	0.20	Hours
Factors	0.2 H					
	750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	0.30	Hours
Factors	0.3 H					
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KF10H Matl Steward Steel Workers	Linear	0.00	Hours
Factors	0.35 H 0 5/31 M.S. Dbl Bdot					

**Line Item 24 - HSGS Support**

BOE Estimators Experience - Scott Anderson, Waste & Remediation Operations  
Experience Item Desc - FY 1999 TRU Waste Characterization Activities  
Breakdown of Cost Data:  
Item - HSGS  
Units - 1,250 drums  
Unit Cost - See BOE Backup  
Unit Cost Adjustment factor - 1.0  
Revised Unit Cost -  
Basis for adjustment --  
  
Assumptions:  
1,250 drums will be available for Head Space Gas Sampling

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	M020 MANAGERS (GRADE 69 - 72)	R100S RMRS Salaried	Linear	0.50	Hours
Factors	0.5 Hours					
	750 STRAIGHT TIME BASE	P170 OTHER ADMINISTRATIVE & PROFE	R100S RMRS Salaried	Linear	0.50	Hours
Factors	0.5 Hours					
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KF10H Matl Steward Steel Workers	Linear	0.00	Hours
Factors	2.6 Hours 0 5/31 M.S. Dbl Bdot					

WBS No: 1AAG  
Activity ID: 1AW3206235

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KF10H	Matt Steward Steel Workers	Linear	0.00	Hours
Factors	1.1	Hours	0	5/31 M.S. Dbl Bdat				

**Line Item 31 - RTR Support**

BOE	NMH&C crew X-raying drums	1200.00	2 fte					
	NMH&C foreman supervising X-ray	600.00	1 fte					
	RTR machine rental or SRS use	240000.00	contract machine ops					

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	600.00	Hours
	Factors 600 Hours								
	750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	1,200.00	Hours
Factors 1200 Hours									

**Line Item 53 - Transport/Stage Support**

BOE	RCT for building support	1140.00	4 fte					
	NMH&C foreman supervising move	285.00	1 fte					
	NMH&C operators moving drums	2280.00	8 fte					

Resources	Cost Element			Skill		Department		Curve	Quantity	Units		
	750	STRAIGHT TIME BASE		M010	FOREMEN / TEAM LEADS / GROUP		SA01S	SSOC 371 Closure Project		Linear	279.42	Hours
	Factors	0.98041	Dept. Code Change from S126S		285	Hours		1	Super			
	750	STRAIGHT TIME BASE		R010	CHEMICAL SYSTEMS OPERATOR (		KF10H	Matl Steward Steel Workers		Linear	0.00	Hours
	Factors	1140	hrs		0	5/31 M.S. Dbl Bdat						
	750	STRAIGHT TIME BASE		T050	RADIATION CONTROL TECHNOLOGI		KF10H	Matl Steward Steel Workers		Linear	0.00	Hours
	Factors	570	hrs		0	5/31 M.S. Dbl Bdat						

Activity ID: 1AW3206255 Description: FY00 Wet Repack Operations

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
01	GB40 Operations - 1st Shift	0.32	ea	HC	21.730	6.915	145.176	0	0	145.176	70.628	215.804
02	GB40 Operations - 2nd Shift	0.32	ea	HC	21.730	6.915	145.176	0	0	145.176	70.628	215.804
03	GB1509 Operations - 1st Shift	0.32	ea	HC	21.730	6.915	145.176	0	0	145.176	70.628	215.804
04	GB1509 Operations - 2nd Shift	0.32	ea	HC	21.730	6.915	145.176	0	0	145.176	70.628	215.804
14	Operate Wet Repack NDA - 1st Shift	0.32	ea	HC	634	202	6,200	0	0	6,200	3,016	9,217
15	Operate Wet Repack NDA - 2nd Shift	0.41	ea	HC	634	257	7,891	0	0	7,891	3,839	11,731
16	Waste Inspection	0.96	each	HC	325	313	10,721	0	0	10,721	5,216	15,937
17	Drum Crushing in B991	2.89	each	HC	1	1	38	0	0	38	18	56
18	Commodities	0.96	each	HC	0	0	0	254,894	0	254,894	0	254,894
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	7,998	7,998	0	7,998
Total for Activity 1AW3206255:						28.433	605,556	254,894	7,998	868,449	294,600	1,163,049

**Line Item 01 - GB40 Operations - 1st Shift**

BOE	Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.							
	Foreman	1 fte						
	Process Specialist	10 fte						
	Civil Engineer	1 fte (Budgeted in Proj. Mgmt.)						
	RCT	2 fte						

Resources	Cost Element			Skill			Department		Curve	Quantity	Units	
	750	STRAIGHT TIME BASE		M010	FOREMEN / TEAM LEADS / GROUP		SA01S	SSOC 371 Closure Project		Linear	1,820.00	Hours
	Factors	1	Supervisor	1820 hrs/vr								
	750	STRAIGHT TIME BASE		R010	CHEMICAL SYSTEMS OPERATOR (		KA40H	371 Wet Combustibles Steelworkers		Linear	16,290.00	Hours
	Factors	1810	hrs/vr	9 Process Sps.								
	750	STRAIGHT TIME BASE		T050	RADIATION CONTROL TECHNOLIGI		KA10H	371 Complex Steelworkers		Linear	3,620.00	Hours
	Factors	1810	hrs/vr	2 RCT								

**Line Item 02 - GB40 Operations - 2nd Shift**

BOE	Foreman supervising crew of nine (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.							
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WBS No: 1AAG  
Activity ID: 1AW3206255

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

Foreman 1 fte  
Process Specialist 10 fte  
Civil Engineer 1 fte (Budgeted in Proj. Mgmt.)  
RCT 2 fte

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	1.820.00	Hours
Factors	1 Supervisor	1820	hrs/vr					
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	16.290.00	Hours
Factors	1810 hrs/vr	9	Process Sps.					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KA10H	371 Complex Steelworkers	Linear	3.620.00	Hours
Factors	1810 hrs/vr	2	RCT					

**Line Item 03 - GB1509 Operations - 1st Shift**

**BOE**

Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.

Foreman 1 fte  
Process Specialist 10 fte  
Civil Engineer 1 fte (Budgeted in Proj. Mgmt.)  
RCT 2 fte

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	1.820.00	Hours
Factors	1 Supervisor	1820	hrs/vr					
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	16.290.00	Hours
Factors	1810 hrs/vr	9	Process Sps.					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KA10H	371 Complex Steelworkers	Linear	3.620.00	Hours
Factors	1810 hrs/vr	2	RCT					

**Line Item 04 - GB1509 Operations - 2nd Shift**

**BOE**

Foreman supervising crew of nine (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.

Foreman 1 fte  
Process Specialist 10 fte  
Civil Engineer 1 fte (Budgeted in Proj. Mgmt.)  
RCT 2 fte

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	1.820.00	Hours
Factors	1 Supervisor	1820	hrs/vr					
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	16.290.00	Hours
Factors	1810 hrs/vr	9	Process Sps.					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KA10H	371 Complex Steelworkers	Linear	3.620.00	Hours
Factors	1810 hrs/vr	2	RCT					

**Line Item 14 - Operate Wet Repack NDA - 1st Shift**

**BOE**

Process Specialist, Drum movements  
Process Operator Foreman, Drum movements oversight  
NMH&C Process Specialist, Assay drums  
NMH&C Foreman, oversight for drum count

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	300.00	Hours
Factors	300 hrs							
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	110.00	Hours
Factors	1 Foreman	110	hrs					
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	224.00	Hours
Factors	1 Foreman	224	hrs					

WBS No: 1AAG  
Activity ID: 1AW3206255

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1AAG  
\*

Starts In FY \*

750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	2	PS	25	hrs/wk	52	wks/vr	0	5/31 M.S. Dbl Bdat

**Line Item 15 - Operate Wet Repack NDA - 2nd Shift**

BOE

Process Specialist, Drum movements  
Process Operator Foreman, Drum movements oversight  
NMH&C Process Specialist, Assay drums  
NMH&C Foreman, oversight for drum count

Resources

Cost Element			Skill		Denarment		Curve	Quantity	Units
750	STRAIGHT TIME BASE		E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	300.00	Hours
Factors	300	hours							
750	STRAIGHT TIME BASE		M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	110.00	Hours
Factors	1	Foreman	110	hrs					
750	STRAIGHT TIME BASE		M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	224.00	Hours
Factors	1	Foreman	224	hrs					
750	STRAIGHT TIME BASE		R010	CHEMICAL SYSTEMS OPERATOR (	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	2	PS	25	hrs/wk	52	wks/vr	0	5/31 M.S. Dbl Bdqt	

**Line Item 16 - Waste Inspection**

BOE

Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.

Foreman 1 fte  
Process Specialist 10 fte  
Civil Engineer 1 fte (Budgeted in Proj. Mgmt.)  
RCT 2 fte

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S	SSQC 371 Closure Project	Linear	325.00	Hours
Factors	325	hrs						

**Line Item 17 - Drum Crushing in B991**

BOE

Crush empty drums in B991 generated from the process line. Seven shipments totaling approximately 200 drums will take place in FY99.

Resources

Cost Element			Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear	0.50	Hours
Factors	0.5	hr/ship	1 Mamt./Integ.						
750	STRAIGHT TIME BASE		R010	CHEMICAL SYSTEMS OPERATOR (	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	2	PS	9	hrs/ship	0	5/31 M.S. Dbl Bdat			
750	STRAIGHT TIME BASE		T050	RADIATION CONTROL TECHNOLOGI	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	2	hrs/ship	1	RCT	0	5/31 M.S. Dbl Bdat			

**Line Item 18 - Commodities**

BOE

Historical Data Source - Warehouse Materials Charges from 10/98 to 8/99  
Item Desc - Materials for Glovebox Operations  
Breakdown of Historical Data:  
Item - gloves, bags, cans, drums, safety items, special clothing, shoes, tools  
Units - ls  
Unit Cost - \$260,424 per year per process line  
Unit Cost Adjustment factor -1.15 Escalation

Resources

Cost Element			Skill		Department		Curve	Quantity	Units
A5C	SUPPLIES		0000	NONE	SA01S	SSOC 371 Closure Project	Linear	264.330.30	Dollars
Factors	1.015	-- FY00 Escalation --	260424		\$				

**Line Item SYS - Contingency And Escalation**

BOE

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	4.691.32	Dollars
Factors 4691.32 Dollars								

WBS No: 1AAG  
Activity ID: 1AW3206255

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	3,307.09	Dollars
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Factors 3307.09 Dollars

Activity ID: 1AW3206335 Description: FY01 Wet Gas Generation Testing

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
01	Operate Gas Generation Testing	30.97	con	HC	147	4,557	92,558	77,249	0	169,807	44,150	213,957
21	Receive and Store @ Storage Fac	1,114.85	each	HC	0	223	6,156	35,919	0	42,076	2,937	45,012
22	Stage & Transfer to HSGS	1,114.85	each	HC	0	334	9,234	70,824	0	80,058	4,405	84,463
23	Receive and Stage for HSGS	1,114.85	each	HC	0	334	9,234	35,406	0	44,641	4,405	49,045
24	HSGS Support	1,114.85	each	HC	1	1,115	44,416	35,406	0	79,822	21,186	101,008
31	Real Time RadioGRAPHY	0.88	ea	HC	1,200	1,062	21,564	217,200	0	238,764	10,286	249,051
53	Transport/Stage Support	0.88	ea	HC	0	0	0	0	0	0	0	0
55	A5H Plug: 6-13-00 FY00 Target Red	1.00	ea	HC	0	0	0	1,298,174	0	1,298,174	0	1,298,174
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	109,133	109,133	0	109,133
Total for Activity 1AW3206335:						7,626	183,162	1,770,179	109,133	2,062,474	87,368	2,149,843

**Line Item 01 - Operate Gas Generation Testing**

**BOE**

Based on FY99 historical data from gas generation testing with 15 units in B776:  
To support 15 Gas Gen. Testing Canisters for 1 week  
Process Specialist staging drums, 4fte x 4hrs  
Process Specialist loading/unloading canisters, 4fte x 5hrs  
Process Specialist sampling, 2samples x 1fte x 4hrs  
Lab Tech, 2samples x 1fte x 6hrs  
Foreman supervising, 1fte x 10hrs  
  
For 1 unit, hours per week:  
Process Specialist, 2.83 hours/week  
Lab Tech, 1.00 hour/week  
Foreman supervising, 0.67 hour/week

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR /	KA40H	371 Wet Combustibles Steelworkers	Linear	147.16	Hours
Factors	1 PS	52	wks/vr	2.83	hr/wk/canister			
A5H	SUBCONTRACTED SRVS	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSQC 371 Closure Project	Linear	2,494.48	Dollars
Factors	0.67 hrs/wk/canister	1	Foreman	52	wks/vr	70 \$/hr		
1.02283 -- FY00 Escalation --								

**Line Item 21 - Receive and Store @ Storage Fac**

**BOE**

Estimators Experience - Scott Anderson, Waste & Remediation Operations  
Experience Item Desc - FY 1999 TRU Waste Characterization Activities  
Breakdown of Cost Data:  
Item - HSGS  
Units - 1,260 drums  
Unit Cost - See BOE Backup  
Unit Cost Adjustment factor - 1.0  
Revised Unit Cost -  
Basis for adjustment -  
  
Assumptions:  
1,260 drums will be available for Head Space Gas Sampling

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	0.20	Hours
Factors	0.2 hr/drum							
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	32.22	Dollars
Factors	31.5 \$/drum		1.02283 -- FY00 Escalation --					

**Line Item 22 - Stage & Transfer to HSGS**

**BOE**

Estimators Experience - Scott Anderson, Waste & Remediation Operations  
Experience Item Desc - FY 1999 TRU Waste Characterization Activities  
Breakdown of Cost Data:

WBS No: 1AAG  
Activity ID: 1AW3206335

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

Item - HSGS Units - 1,260 drums Unit Cost - See BOE Backup Unit Cost Adjustment factor - 1.0 Revised Unit Cost - Basis for adjustment -  Assumptions: 1,260 drums will be available for Head Space Gas Sampling							
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Resources		Cost Element	Skill	Department		Curve	Quantity	Units
		750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear 0.30 Hours
		Factors	0.3 H					
		A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear 63.53 Dollars
		Factors	62.11 D	1.02283 -- FY00 Escalation --				

**Line Item 23 - Receive and Stage for HSGS**

BOE Estimators Experience - Scott Anderson, Waste & Remediation Operations Experience Item Desc - FY 1999 TRU Waste Characterization Activities Breakdown of Cost Data: Item - HSGS Units - 1,260 drums Unit Cost - See BOE Backup Unit Cost Adjustment factor - 1.0 Revised Unit Cost - Basis for adjustment -  Assumptions: 1,260 drums will be available for Head Space Gas Sampling							
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Resources		Cost Element	Skill	Department		Curve	Quantity	Units
		750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear 0.30 Hours
		Factors	0.3 H					
		A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear 31.76 Dollars
		Factors	31.05 D	1.02283 -- FY00 Escalation --				

**Line Item 24 - HSGS Support**

BOE Estimators Experience - Scott Anderson, Waste & Remediation Operations Experience Item Desc - FY 1999 TRU Waste Characterization Activities Breakdown of Cost Data: Item - HSGS Units - 1,260 drums Unit Cost - See BOE Backup Unit Cost Adjustment factor - 1.0 Revised Unit Cost - Basis for adjustment -  Assumptions: 1,260 drums will be available for Head Space Gas Sampling							
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Resources		Cost Element	Skill	Department		Curve	Quantity	Units
		750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear 0.50 Hours
		Factors	0.5 Hours					
		750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear 0.50 Hours
		Factors	0.5 Hours					
		A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear 31.76 Dollars
		Factors	31.05 Dollars	1.02283 -- FY00 Escalation --				

**Line Item 31 - Real Time Radiography**

BOE NMH&C crew X-raying drums 1200.00 2 fte NMH&C foreman supervising X-ray 600.00 1 fte RTR machine rental or SRS use 240000.00 contract machine ops							
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Resources		Cost Element	Skill	Department		Curve	Quantity	Units
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WBS No: 1AAG  
Activity ID: 1AW3206335

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	1,200.00	Hours
Factors	1200	Hours						
A5H	SUBCONTRACTED SRVS	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	245,479.20	Dollars
Factors	1.02283	-- FY00 Escalation --	240000	Dollars				

**Line Item 53 - Transport/Stage Support**

BOE	RCT for building support	1140.00	4 fte
	NMH&C foreman supervising move	285.00	1 fte
	NMH&C operators moving drums	2280.00	8 fte

Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE		R010	CHEMICAL SYSTEMS OPERATOR (	KE10H	Matl Steward Steel Workers	Linear	0.00	Hours
	Factors	8	Proc Spec	285	hrs	0	5/31 M.S. Dbl Bdat			
	750	STRAIGHT TIME BASE		T050	RADIATION CONTROL TECHNOLOGI	KE10H	Matl Steward Steel Workers	Linear	0.00	Hours
	Factors	4	RCT	285	hrs	0	5/31 M.S. Dbl Bdat			

**Line Item 55 - A5H Plug: 6-13-00 FY00 Target Red**

BOE	Estimators Experience - Scott Anderson, Waste & Remediation Operations
	Experience Item Desc - FY 1999 TRU Waste Characterization Activities
	Breakdown of Cost Data:
	Item - HSGS
	Units - 1,260 drums
	Unit Cost - See BOE Backup
	Unit Cost Adjustment factor - 1.0
	Revised Unit Cost -
	Basis for adjustment -
	Assumptions:
	1,260 drums will be available for Head Space Gas Sampling

Resources	<i>Cost Element</i>		<i>Skill</i>		<i>Department</i>		<i>Curve</i>	<i>Quantity</i>	<i>Units</i>
	A5H	SUBCONTRACTED SRVS	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	1,298,174.00	Dollars
	<i>Factors</i> 1298174 Dollars								

**Line Item SYS - Contingency And Escalation**

BOE										
Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	66,220.93	Dollars
	Factors 66220.9 Dollars									
	ESC	ESCALATION		0000	NONE	ZDEPT	No Department	Linear	42,911.57	Dollars
	Factors 42911.6 Dollars									

Activity ID: 1AW3206355 Description: FY01 Wet Repack Operations

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
01	GB40 Repack Operations	0.96	ea	HC	26.076	25.145	577.301	0	0	577.301	262.035	839.336
02	GB 40 Second Shift Operations	0.96	ea	HC	26.076	25.145	577.301	0	0	577.301	262.035	839.336
03	GB1509 Repack Operations	0.96	ea	HC	26.076	25.145	577.301	0	0	577.301	262.035	839.336
04	GB 1509 Second Shift	0.96	ea	HC	21.732	20.956	483.720	0	0	483.720	219.559	703.279
14	Operate Wet Repack NDA	0.96	ea	HC	600	579	15.975	0	0	15.975	7.251	23.225
16	Waste Inspection	3.86	each	HC	905	3,491	65.871	0	0	65.871	29.899	95.769
17	Drum Crushing in B991	9.64	each	HC	1	5	126	3,206	0	3,332	57	3,389
18	Commodities	3.86	each	HC	0	0	0	1,058,319	0	1,058,319	0	1,058,319
19	5/31 A5H NDA Support	0.96	each	HC	0	0	0	109,930	0	109,930	0	109,930
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	305.447	305.447	0	305.447
Total for Activity 1AW3206355:						100.466	2,297,594	1,171,455	305.447	3,774,495	1,042,872	4,817,367

**Line Item 01 - GB40 Repack Operations**

BOE	Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.
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WBS No: 1AAG  
Activity ID: 1AW3206355

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1AAG  
\*

Starts In FY \*

Foreman 1 fte  
Process Specialist 10 fte  
Civil Engineer 1 fte (Budgeted in Proj. Mgmt.)  
RCT 2 fte

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	1.820.00	Hours
Factors	1 Supervisor		1820 hrs/vr					
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	16.290.00	Hours
Factors	1810 hrs/vr		9 Process Sps.					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	3.620.00	Hours
Factors	1810 hrs/vr		2 RCT					
751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	364.00	Hours
Factors	1 Supervisor		1820 hrs/vr		0.2 20% Overtime			
751	OVERTIME BASE & PRE.	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	3.258.00	Hours
Factors	1810 hrs/vr		9 Process Sps.		0.2 20% Overtime			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	724.00	Hours
Factors	0.2 20% Overtime		1810 hrs/vr		2 RCT			

**Line Item 02 - GB 40 Second Shift Operations**

**BOE**

Foreman supervising crew of nine (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.

Foreman 1 fte  
Process Specialist 10 fte  
Civil Engineer 1 fte (Budgeted in Proj. Mgmt.)  
RCT 2 fte

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	1.820.00	Hours
Factors	1 Supervisor		1820 hrs/vr					
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	16.290.00	Hours
Factors	1810 hrs/fte		9 Process Sps.					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	3.620.00	Hours
Factors	1810 hrs/vr		2 RCT					
751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	364.00	Hours
Factors	0.2 20% Overtime		1 Supervisor		1820 hrs/vr			
751	OVERTIME BASE & PRE.	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	3.258.00	Hours
Factors	1810 hrs/vr		0.2 20% Overtime		9 Process Sps.			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	724.00	Hours
Factors	1810 hrs/vr		0.2 20% Overtime		2 RCT			

**Line Item 03 - GB1509 Repack Operations**

**BOE**

Foreman supervising crew of nine (9) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.

Foreman 1 fte  
Process Specialist 9 fte  
Civil Engineer 1 fte (Budgeted in Proj. Mgmt.)  
RCT 2 fte

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	1.820.00	Hours
Factors	1 Supervisor		1820 hrs/vr					
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	16.290.00	Hours
Factors	1810 hrs/vr		9 Process Sps.					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	3.620.00	Hours
Factors	1810 hrs/vr		2 RCT					

WBS No: 1AAG  
Activity ID: 1AW3206355

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1AAG  
\*

Starts In FY \*

751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	364.00	Hours
Factors	1	Supervisor	1820	hrs/vr	0.2	20% Overtime		
751	OVERTIME BASE & PRE.	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	3,258.00	Hours
Factors	1810	hrs/vr	0.2	20% Overtime	9	Process Sps.		
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	724.00	Hours
Factors	1810	hrs/vr	2	RCT	0.2	20% Overtime		

**Line Item 04 - GB 1509 Second Shift**

BOE

Foreman supervising crew of nine (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.

Foreman 1 fte  
Process Specialist 10 fte  
Civil Engineer 1 fte (Budgeted in Proj. Mgmt.)  
RCT 2 fte

Resources

Cost Element			Skill		Department		Curve	Quantity	Units		
750	STRAIGHT TIME BASE		M010	FOREMEN / TEAM LEADS / GROUP		SA01S	SSOC 371 Closure Project		Linear	1,820.00	Hours
Factors	1	Supervisor	1820	hrs/vr							
750	STRAIGHT TIME BASE		R010	CHEMICAL SYSTEMS OPERATOR (		KA40H	371 Wet Combustibles Steelworkers		Linear	12,670.00	Hours
Factors	1810	hrs/fte	7	Process Sps.							
750	STRAIGHT TIME BASE		T050	RADIATION CONTROL TECHNOLIGI		KA10H	371 Complex Steelworkers		Linear	3,620.00	Hours
Factors	1810	hrs/vr	2	RCT							
751	OVERTIME BASE & PRE.		M010	FOREMEN / TEAM LEADS / GROUP		SA01S	SSOC 371 Closure Project		Linear	364.00	Hours
Factors	0.2	20% Overtime	1	Supervisor		1820	hrs/vr				
751	OVERTIME BASE & PRE.		R010	CHEMICAL SYSTEMS OPERATOR (		KA40H	371 Wet Combustibles Steelworkers		Linear	2,534.00	Hours
Factors	1810	hrs/vr	0.2	20% Overtime		7	Process Sps.				
751	OVERTIME BASE & PRE.		T050	RADIATION CONTROL TECHNOLIGI		KA10H	371 Complex Steelworkers		Linear	724.00	Hours
Factors	1810	hrs/vr	0.2	20% Overtime		2	RCT				

**Line Item 14 - Operate Wet Repack NDA**

BOE

Process Specialist, Drum movements  
Process Operator Foreman, Drum movements oversight  
NMH&C Process Specialist, Assay drums  
NMH&C Foreman, oversight for drum count

Resources

Cost Element			Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	200.00	Hours
Factors	1	Foreman	200 hrs						
750	STRAIGHT TIME BASE		M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	400.00	Hours
Factors	1	Foreman	400 hrs						
750	STRAIGHT TIME BASE		R010	CHEMICAL SYSTEMS OPERATOR (	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	2	PS	52	wks/vr	25	hrs/wk	0 5/31 M.S. Dbl Bdat		

**Line Item 16 - Waste Inspection**

BOE

Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.

Foreman 1 fte  
Process Specialist 10 fte  
Civil Engineer 1 fte (Budgeted in Proj. Mgmt.)  
RCT 2 fte

Resources

Cost Element			Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		L060	MISSION SUP SPEC II (FLTTC. WS	KH10H	EESH&Q Steelworkers	Linear	905.00	Hours
Factors	1	Waste Inspector	0.5	Half time	1810	hrs/vr			

**Line Item 17 - Drum Crushing in B991**

BOE

Crush empty drums in B991 generated from the process line. Seven shipments totaling approximately 200 drums will take place in FY99.

Resources

Cost Element	Skill	Department	Curve	Quantity	Units
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WBS No: 1AAG  
Activity ID: 1AW3206355

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear	0.50	Hours
Factors	1	Mamt./Intea.	0.5	hr/ship				
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	2	PS	9	hrs/ship	0	5/31 M.S. Dbl Bdat		
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	1	RCT	2	hrs/ship	0	5/31 M.S. Dbl Bdat		
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	265.94	Dollars
Factors	1.02283	-- FY00 Escalation --	1	Foreman	4	hrs/ship	65	\$/hr
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	66.48	Dollars
Factors	1.02283	-- FY00 Escalation --	65	\$/hr	1	Waste Coord.	1	hr/ship

**Line Item 18 - Commodities**

**BOE**

Historical Data Source - Warehouse Materials Charges from 10/98 to 8/99  
Item Desc - Materials for Glovebox Operations  
Breakdown of Historical Data:  
Item - gloves, bags, cans, drums, safety items, special clothing, shoes, tools  
Units - ls  
Unit Cost - \$260,424 per year per process line  
Unit Cost Adjustment factor -1.15 Escalation

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	264.330.30	Dollars
Factors	1.015	-- FY00 Escalation --	260424	\$				
A5T	TAXES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	10.044.55	Dollars
Factors	1.015	-- FY00 Escalation --	0.038	3.8% Sales Tax	260424	\$		

**Line Item 19 - 5/31 A5H NDA Support**

**BOE**

Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.

Foreman 1 fte  
Process Specialist 10 fte  
Civil Engineer 1 fte (Budgeted in Proj. Mgmt.)  
RCT 2 fte

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	114.000.00	Dollars
Factors	114000	dollars						

**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	190.074.70	Dollars
Factors	190075	Dollars						
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	115.372.50	Dollars
Factors	115373	Dollars						

Activity ID: 1AW3206435 Description: FY02 Wet Gas Generation Testing

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
01	Operate Gas Generation Testing	30.97	con	HC	147	4.557	92.558	77.249	0	169.807	32.673	202.480
21	Receive and Store @ Storage Fac	583.97	each	HC	0	117	3.225	18.815	0	22.040	1.138	23.178
22	Stage & Transfer to HSGS	583.97	each	HC	0	175	4.837	37.098	0	41.935	1.707	43.643
23	Receive and Stage for HSGS	583.97	each	HC	0	175	4.837	18.546	0	23.383	1.707	25.091
24	HSGS Support	583.97	each	HC	1	584	23.265	18.546	0	41.811	8.213	50.024
31	Real Time Radiography	0.51	ea	HC	1.800	924	21.009	125.976	0	146.985	7.416	154.401
53	Transport/Stage Support	0.59	ea	HC	279	165	4.569	0	0	4.569	1.613	6.181
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	76.256	76.256	0	76.256
Total for Activity 1AW3206435:						6.698	154.299	296.231	76.256	526.786	54.468	581.253

WBS No: 1AAG  
Activity ID: 1AW3206435

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

**Line Item 01 - Operate Gas Generation Testing**

**BOE**

Based on FY99 historical data from gas generation testing with 15 units in B776:  
To support 15 Gas Gen. Testing Canisters for 1 week  
Process Specialist staging drums, 4fte x 4hrs  
Process Specialist loading/undloading canisters, 4fte x 5hrs  
Process Specialist sampling, 2samples x 1fte x 4hrs  
Lab Tech, 2samples x 1fte x 6hrs  
Foreman supervising, 1fte x 10hrs  
  
For 1 unit, hours per week:  
Process Specialist, 2.83 hours/week  
Lab Tech, 1.00 hour/week  
Foreman supervising, 0.67 hour/week

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR /	KA40H	371 Wet Combustibles Steelworkers	Linear	147.16	Hours
Factors	1 PS	52	wks/vr	2.83	hr/wk/canister			
A5H	SUBCONTRACTED SRVS	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSQC 371 Closure Project	Linear	2.494.48	Dollars
Factors	0.67 hrs/wk/canister	1	Foreman	52	wks/vr	70 \$/hr		
	1.02283 -- FY00 Escalation --							

**Line Item 21 - Receive and Store @ Storage Fac**

**BOE**

Estimators Experience - Scott Anderson, Waste & Remediation Operations  
Experience Item Desc - FY 1999 TRU Waste Characterization Activities  
Breakdown of Cost Data:  
Item - HSGS  
Units - 1,260 drums  
Unit Cost - See BOE Backup  
Unit Cost Adjustment factor - 1.0  
Revised Unit Cost -  
Basis for adjustment -  
  
Assumptions:  
1,260 drums will be available for Head Space Gas Sampling

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	0.20	Hours
Factors	0.2 hr/drum							
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	32.22	Dollars
Factors	31.5 \$/drum		1.02283 -- FY00 Escalation --					

**Line Item 22 - Stage & Transfer to HSGS**

**BOE**

Estimators Experience - Scott Anderson, Waste & Remediation Operations  
Experience Item Desc - FY 1999 TRU Waste Characterization Activities  
Breakdown of Cost Data:  
Item - HSGS  
Units - 1,260 drums  
Unit Cost - See BOE Backup  
Unit Cost Adjustment factor - 1.0  
Revised Unit Cost -  
Basis for adjustment -  
  
Assumptions:  
1,260 drums will be available for Head Space Gas Sampling

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	0.30	Hours
Factors	0.3 H							
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	63.53	Dollars
Factors	62.11 D		1.02283 -- FY00 Escalation --					

**Line Item 23 - Receive and Stage for HSGS**

**BOE**

Estimators Experience - Scott Anderson, Waste & Remediation Operations

WBS No: 1AAG  
Activity ID: 1AW3206435

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

Experience Item Desc - FY 1999 TRU Waste Characterization Activities  
Breakdown of Cost Data:  
Item - HSGS  
Units - 1,260 drums  
Unit Cost - See BOE Backup  
Unit Cost Adjustment factor - 1.0  
Revised Unit Cost -  
Basis for adjustment -

Assumptions:  
1,260 drums will be available for Head Space Gas Sampling

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	0.30	Hours
Factors	0.3 H					
	A5H SUBCONTRACTED SRVS	0000 NONE	R100S RMRS Salaried	Linear	31.76	Dollars
Factors	31.05 D	1.02283 -- FY00 Escalation --				

**Line Item 24 - HSGS Support**

BOE	Estimators Experience - Scott Anderson, Waste & Remediation Operations Experience Item Desc - FY 1999 TRU Waste Characterization Activities Breakdown of Cost Data: Item - HSGS Units - 660 drums Unit Cost - See BOE Backup Unit Cost Adjustment factor - 1.0 Revised Unit Cost - Basis for adjustment -  Assumptions: 660 drums will be available for Head Space Gas Sampling					
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Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	M020 MANAGERS (GRADE 69 - 72)	R100S RMRS Salaried	Linear	0.50	Hours
Factors	0.5 Hours					
	750 STRAIGHT TIME BASE	P170 OTHER ADMINISTRATIVE & PROFE	R100S RMRS Salaried	Linear	0.50	Hours
Factors	0.5 Hours					
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KF10H Mail Steward Steel Workers	Linear	0.00	Hours
Factors	2.6 Hours	0 5/31 MS Dbl. Budget				
	750 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLIGI	KF10H Mail Steward Steel Workers	Linear	0.00	Hours
Factors	1.1 Hours	0 5/31 MS Dbl. Budget				
	A5H SUBCONTRACTED SRVS	0000 NONE	R100S RMRS Salaried	Linear	31.76	Dollars
Factors	31.05 Dollars	1.02283 -- FY00 Escalation --				

**Line Item 31 - Real Time Radiography**

BOE	NMH&C crew X-raying drums 1200.00 2 fte NMH&C foreman supervising X-ray 600.00 1 fte RTR machine rental or SRS use 240000.00 contract machine ops					
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Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	600.00	Hours
Factors	600 Hours					
	750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	1,200.00	Hours
Factors	1200 Hours					
	A5H SUBCONTRACTED SRVS	0000 NONE	SA01S SSOC 371 Closure Project	Linear	245,479.20	Dollars
Factors	1.02283 -- FY00 Escalation --	240000 Dollars				

**Line Item 53 - Transport/Stage Support**

BOE	RCT for building support 1140.00 4 fte NMH&C foreman supervising move 285.00 1 fte NMH&C operators moving drums 2280.00 8 fte					
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Resources	Cost Element	Skill	Department	Curve	Quantity	Units
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WBS No: 1AAG  
Activity ID: 1AW3206435

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	279.42	Hours
Factors	1 Super		285 hrs		0.98041 Dept. Code Change from S126S			
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KF10H	Matt Steward Steel Workers	Linear	0.00	Hours
Factors	8 Proc Spec		285 hrs		0 5/31 MS Dbl. Budget			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KF10H	Matt Steward Steel Workers	Linear	0.00	Hours
Factors	4 RCT		285 hrs		0 5/31 MS Dbl. Budget			

**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

Cost Element	Skill	Department	Curve	Quantity	Units
CON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	52.656.9	Dollars
Factors	52656.9 Dollars				
ESC ESCALATION	0000 NONE	ZDEPT No Department	Linear	23.599.24	Dollars
Factors	23599.2 Dollars				

Activity ID: 1AW3206455

Description: FY02 Wet Repack Operations

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
01	GB40 Repack Operations	0.32	ea	HC	26.076	8.298	190.509	0	0	190.509	67.250	257.759
02	GB 40 Second Shift Operations	0.32	ea	HC	26.076	8.298	190.509	0	0	190.509	67.250	257.759
03	GB1509 Repack Operations	0.32	ea	HC	26.076	8.298	190.509	0	0	190.509	67.250	257.759
04	GB 1509 Second Shift Operations	0.32	ea	HC	21.732	6.916	159.628	0	0	159.628	56.349	215.976
14	Operate Wet Repack NDA	0.32	ea	HC	600	191	5.272	0	0	5.272	1.861	7.132
16	Waste Inspection	0.65	each	HC	905	585	11.033	0	0	11.033	3.895	14.928
17	Drum Crushing in B991	5.79	each	HC	1	3	76	1.923	0	1.999	27	2.026
18	Commodities	0.65	each	HC	0	0	0	177.268	0	177.268	0	177.268
19	5/31 A5H NDA Support	0.96	each	HC	0	0	0	109.930	0	109.930	0	109.930
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	196.385	196.385	0	196.385
Total for Activity 1AW3206455:						32.588	747.536	289.122	196.385	1,233.043	263.880	1,496.923

**Line Item 01 - GB40 Repack Operations**

**BOE**

Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.

Foreman 1 fte  
Process Specialist 10 fte  
Civil Engineer 1 fte (Budgeted in Proj. Mgmt.)  
RCT 2 fte

**Resources**

Cost Element	Skill	Department	Curve	Quantity	Units
750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	1.820.00	Hours
Factors	1 Supervisor				
750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	16.290.00	Hours
Factors	1810 hrs/vr	9 Process Sps.			
750 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLIGI	KA10H 371 Complex Steelworkers	Linear	3.620.00	Hours
Factors	1810 hrs/vr	2 RCT			
751 OVERTIME BASE & PRE.	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	364.00	Hours
Factors	1 Supervisor				
751 OVERTIME BASE & PRE.	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	3.258.00	Hours
Factors	1810 hrs/vr	9 Process Sps.			
751 OVERTIME BASE & PRE.	T050 RADIATION CONTROL TECHNOLIGI	KA10H 371 Complex Steelworkers	Linear	724.00	Hours
Factors	0.2 20% Overtime	1810 hrs/vr			
		2 RCT			

**Line Item 02 - GB 40 Second Shift Operations**

**BOE**

Foreman supervising crew of nine (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.

Foreman 1 fte

WBS No: 1AAG  
Activity ID: 1AW3206455

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \* Starts In FY \*

Process Specialist 10 fte  
Civil Engineer 1 fte (Budgeted in Proj. Mgmt.)  
RCT 2 fte

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	1,820.00	Hours
Factors	1	Supervisor	1820	hrs/vr					
	750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	16,290.00	Hours
Factors	1810	hrs/fte	9	Process Sps.					
	750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	3,620.00	Hours
Factors	1810	hrs/vr	2	RCT					
	751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	364.00	Hours
Factors	0.2	20% Overtime	1	Supervisor	1820	hrs/vr			
	751	OVERTIME BASE & PRE.	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	3,258.00	Hours
Factors	1810	hrs/vr	0.2	20% Overtime	9	Process Sps.			
	751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	724.00	Hours
Factors	1810	hrs/vr	0.2	20% Overtime	2	RCT			

**Line Item 03 - GB1509 Repack Operations**

BOE	Foreman supervising crew of nine (9) process specialists with engineer support for WIPP data package and RCT support. Overtime is 25% of total hours.								
	Foreman 1 fte Process Specialist 9 fte Civil Engineer 1 fte (Budgeted in Proj. Mgmt.) RCT 2 fte								

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	1,820.00	Hours
Factors	1	Supervisor	1820	hrs/vr					
	750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	16,290.00	Hours
Factors	1810	hrs/vr	9	Process Sps.					
	750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	3,620.00	Hours
Factors	1810	hrs/vr	2	RCT					
	751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	364.00	Hours
Factors	1	Supervisor	1820	hrs/vr	0.2	20% Overtime			
	751	OVERTIME BASE & PRE.	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	3,258.00	Hours
Factors	1810	hrs/vr	0.2	20% Overtime	9	Process Sps.			
	751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	724.00	Hours
Factors	1810	hrs/vr	2	RCT	0.2	20% Overtime			

**Line Item 04 - GB 1509 Second Shift Operations**

BOE	Foreman supervising crew of nine (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.								
	Foreman 1 fte Process Specialist 10 fte Civil Engineer 1 fte (Budgeted in Proj. Mgmt.) RCT 2 fte								

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	1,820.00	Hours
Factors	1	Supervisor	1820	hrs/vr					
	750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	12,670.00	Hours
Factors	1810	hrs/fte	7	Process Sps.					
	750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KA10H	371 Complex Steelworkers	Linear	3,620.00	Hours
Factors	1810	hrs/vr	2	RCT					
	751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	364.00	Hours
Factors	0.2	20% Overtime	1	Supervisor	1820	hrs/vr			



WBS No: 1AAG  
Activity ID: 1AW3206455

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

751	OVERTIME BASE & PRE.	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	2,534.00	Hours
Factors	1810 hrs/vr		0.2 20% Overtime	7	Process Sps.			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLOGI	KA10H	371 Complex Steelworkers	Linear	724.00	Hours
Factors	1810 hrs/vr		0.2 20% Overtime	2	RCT			

**Line Item 14 - Operate Wet Repack NDA**

**BOE** Process Specialist, Drum movements  
Process Operator Foreman, Drum movements oversight  
NMH&C Process Specialist, Assay drums  
NMH&C Foreman, oversight for drum count

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	200.00	Hours
Factors	1 Foreman		200 hrs					
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	400.00	Hours
Factors	1 Foreman		400 hrs					
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	2 PS		52 wks/vr	25	hrs/wk	0	5/31 MS Dbl. Budget	

**Line Item 16 - Waste Inspection**

**BOE** Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.

Foreman 1 fte  
Process Specialist 10 fte  
Civil Engineer 1 fte (Budgeted in Proj. Mgmt.)  
RCT 2 fte

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	L060	MISSION SUP SPEC II (FLTTC. WS	KH10H	EESH&Q Steelworkers	Linear	905.00	Hours
Factors	1 Waste Inspector		0.5 Half time	1810	hrs/vr			

**Line Item 17 - Drum Crushing in B991**

**BOE** Crush empty drums in B991 generated from the process line. Seven shipments totaling approximately 200 drums will take place in FY99.

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear	0.50	Hours
Factors	1 Mamt./Intea.		0.5 hr/ship					
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	2 PS		9 hrs/ship	0	5/31 MS Dbl. Budget			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	1 RCT		2 hrs/ship	0	5/31 MS Dbl. Budget			
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	265.94	Dollars
Factors	1.02283 -- FY00 Escalation --		1 Foreman	4	hrs/ship	65 \$/hr		
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	66.48	Dollars
Factors	1.02283 -- FY00 Escalation --		1 Waste Coord.	1	hr/ship	65 \$/hr		

**Line Item 18 - Commodities**

**BOE** Historical Data Source - Warehouse Materials Charges from 10/98 to 8/99  
Item Desc - Materials for Glovebox Operations  
Breakdown of Historical Data:  
Item - gloves, bags, cans, drums, safety items, special clothing, shoes, tools  
Units - ls  
Unit Cost - \$260,424 per year per process line  
Unit Cost Adjustment factor -1.15 Escalation

Cost Element		Skill		Department		Curve	Quantity	Units
A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	264.330.30	Dollars
Factors	1.015 -- FY00 Escalation --		260424 \$					
A5T	TAXES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	10.044.55	Dollars
Factors	1.015 -- FY00 Escalation --		0.038 3.8% Sales Tax	260424 \$				

WBS No: 1AAG  
Activity ID: 1AW3206455

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

**Line Item 19 - 5/31 A5H NDA Support**

**BOE** Foreman supervising crew of ten (10) process specialists with engineer support for WIPP data package and RCT support. Overtime is 20% of total hours.

Foreman 1 fte  
Process Specialist 10 fte  
Civil Engineer 1 fte (Budgeted in Proj. Mgmt.)  
RCT 2 fte

Resources		Cost Element	Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS		0000	NONE	SA01S	SSOC 371 Closure Project	Linear	114.000.00	Dollars

Factors 114000 dollars

**Line Item SYS - Contingency And Escalation**

Resources		Cost Element	Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	135.609.20	Dollars

Factors 135609 Dollars

ESC	ESCALATION		0000	NONE	ZDEPT	No Department	Linear	60.776.02	Dollars
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Factors 60776.0 Dollars

Activity ID: 1AW3206668 Description: FY00 Glovebox Operations Maintenance

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
01	Routine GB Maintenance	0.50	each	EE	224	112	3.525	0	0	3.525	1.720	5.246
02	Routine GB & Room Filter Replacements	0.50	each	EE	90	45	1.208	0	0	1.208	590	1.798
03	GB Guillotine Door Maintenance	0.50	each	EE	160	80	2.142	0	0	2.142	1.045	3.187
04	Routine CAM Placement Smoke Test	0.50	each	EE	0	0	0	508	0	508	0	508
05	Metrology of Operations Equipment	0.50	each	BM	1.564	782	17.368	0	0	17.368	8.476	25.844
0A	Maintenance Planning	0.50	each	EE	0	0	0	27.420	0	27.420	0	27.420
11	Glovebox & C-Cell Routine Maintenance	0.50	each	EE	327	164	4.028	1.269	0	5.297	1.966	7.262
12	Guillotine Door Maintenance	0.50	each	EE	81	41	1.093	0	0	1.093	534	1.627
16	Metrology of Scale & Torque Wrench	0.50	each	EE	1.150	575	12.771	0	0	12.771	6.232	19.003
1A	Maintenance Planning	0.50	each	EE	0	0	0	27.420	0	27.420	0	27.420
Total for Activity 1AW3206668:						1.798	42.136	56.617	0	98.752	20.562	119.314

**Line Item 01 - Routine GB Maintenance**

**BOE** Routine GB Maintenance.

RCT time is budgeted in operations.

Resources		Cost Element	Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		C040	MAINTENANCE MACHINIST (incl Exp	KA20H	371/374 Facility Maint Steelworkers	Linear	80.00	Hours

Factors 80 hrs

750	STRAIGHT TIME BASE		E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	24.00	Hours
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Factors 24 hrs

750	STRAIGHT TIME BASE		E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	80.00	Hours
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Factors 80 hrs

750	STRAIGHT TIME BASE		P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	40.00	Hours
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Factors 40 hrs

**Line Item 02 - Routine GB & Room Filter Replacements**

**BOE** This work order will provide routine GB & room filter replacements.

RCT time is budgeted in operations.

Resources		Cost Element	Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		C040	MAINTENANCE MACHINIST (incl Exp	KA20H	371/374 Facility Maint Steelworkers	Linear	40.00	Hours

Factors 40 hrs

WBS No: 1AAG  
Activity ID: 1AW3206668

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1AAG  
\*

Starts In FY \*

750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	8.00	Hours
Factors	8	hrs						
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	4.00	Hours
Factors	4	hrs						
750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	8.00	Hours
Factors	8	hrs						
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	30.00	Hours
Factors	30	hrs						

**Line Item 03 - GB Guillotine Door Maintenance**

BOE

This work order provides for GB Guillotine Door Maintenance.  
RCT time is budgeted in operations.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C090	STRUCTURAL AND METAL WORKE	KA20H	371/374 Facility Maint Steelworkers	Linear	80.00	Hours
Factors	80	hrs						
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	24.00	Hours
Factors	24	hrs						
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	8.00	Hours
Factors	8	hrs						
750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	8.00	Hours
Factors	8	hrs						
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	40.00	Hours
Factors	40	hrs						

**Line Item 04 - Routine CAM Placement Smoke Test**

BOE

This work order provides for Routine CAM Placement Smoke Tests.  
RCT time is budgeted in operations.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	1.016.00	Dollars
Factors	1016	Dollars						

**Line Item 05 - Metrology of Operations Equipment**

BOE

Benchmark Source - Metrology Lab and Operations Project Lead  
Benchmark Item Desc - Metrology of Operation Equipment  
Breakdown of Benchmark Data:  
Item - 1 Scale (1/yr), 1 Torque Wrench (1/yr), 10 Alpha Mets (weekly=520), Gram  
Estimator (daily=260)  
Units - 782 calibrations  
Unit Cost - 2 hours per calibration

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	T070	MAINT. TECHS. (INSTRUMENT TEC	KA20H	371/374 Facility Maint Steelworkers	Linear	1.564.00	Hours
Factors	782	calibrations	2	hrs/calibration				

**Line Item 0A - Maintenance Planning**

BOE

Routine GB Maintenance.  
RCT time is budgeted in operations.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
A57	LATA	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	51.840.00	Dollars
Factors	1	Planner	60	hours/mo	12	mo/year	72	\$/hour
A58	ASI	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	3.000.00	Dollars
Factors	3000	Dollars/Year						

**Line Item 11 - Glovebox & C-Cell Routine Maintenance**

BOE

Historical Data Source - Building 371 maintenance in FY98  
Item Desc -

WBS No: 1AAG  
Activity ID: 1AW3206668

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

Breakdown of Historical Data:  
Item -  
Units -  
Unit Cost -  
Unit Cost Adjustment factor -  
Revised Unit Cost -  
Basis for adjustment -

RCT time is budgeted in operations.

**Resources**

Cost Element			Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		C010	CARPENTERS	KA20H	371/374 Facility Mamt Steelworkers	Linear	55.00	Hours
Factors	55	hrs							
750	STRAIGHT TIME BASE		C020	ELECTRICIANS	KA20H	371/374 Facility Mamt Steelworkers	Linear	55.00	Hours
Factors	55	hrs							
750	STRAIGHT TIME BASE		C040	MAINTENANCE MACHINIST (incl Exp	KA20H	371/374 Facility Mamt Steelworkers	Linear	17.00	Hours
Factors	1	Machinist		17	hrs				
750	STRAIGHT TIME BASE		C070	PAINTERS	KA20H	371/374 Facility Mamt Steelworkers	Linear	30.00	Hours
Factors	1	Painter		30	hrs				
750	STRAIGHT TIME BASE		C090	STRUCTURAL AND METAL WORKE	KA20H	371/374 Facility Mamt Steelworkers	Linear	55.00	Hours
Factors	55	hrs							
750	STRAIGHT TIME BASE		E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	19.00	Hours
Factors	1	Engineer (HVAC/Mech.)		19	hrs				
750	STRAIGHT TIME BASE		E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	19.00	Hours
Factors	1	Nuc Safety Eng		19	hrs				
750	STRAIGHT TIME BASE		E110	QUALITY CONTROL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	3.00	Hours
Factors	3	hrs		1	Quality Reviewer/Inspector				
750	STRAIGHT TIME BASE		P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	55.00	Hours
Factors	55	hrs							
750	STRAIGHT TIME BASE		P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	19.00	Hours
Factors	19	hrs		1	Mtce Planner				
A5C	SUPPLIES		0000	NONE	SA01S	SSOC 371 Closure Project	Linear	2,537.50	Dollars
Factors	1.015	-- FY00 Escalation --		2500	SCBA, Gloves Baqout Bags, Hand				

**Line Item 12 - Guillotine Door Maintenance**

**BOE**

Historical Data Source - Building 371 maintenance in FY98  
Item Desc -  
Breakdown of Historical Data:  
Item -  
Units -  
Unit Cost -  
Unit Cost Adjustment factor -  
Revised Unit Cost -  
Basis for adjustment -

RCT time is budgeted in operations.

**Resources**

Cost Element			Skill		Denarment		Curve	Quantity	Units
750	STRAIGHT TIME BASE		C080	PLUMBERS AND PIPEFITTERS	KA20H	371/374 Facility Mamt Steelworkers	Linear	14.00	Hours
Factors	14	hrs	1	Pipefitter					
750	STRAIGHT TIME BASE		C090	STRUCTURAL AND METAL WORKE	KA20H	371/374 Facility Mamt Steelworkers	Linear	28.00	Hours
Factors	28	hrs							
750	STRAIGHT TIME BASE		E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	19.00	Hours
Factors	1	Mech./HVAC	19	hrs					
750	STRAIGHT TIME BASE		E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	6.00	Hours
Factors	1	Nuc Safetv Eng	6	hrs					
750	STRAIGHT TIME BASE		P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	14.00	Hours
Factors	14	hrs	1	Mtce Planner					

WBS No: 1AAG  
Activity ID: 1AW3206668

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

**Line Item 16 - Metrology of Scale & Torque Wrench**

<b>BOE</b>		Benchmark Source - Metrology Lab and Operations Project Lead Benchmark Item Desc - Metrology of Operation Equipment Breakdown of Benchmark Data: Item - 1 Scale (1/yr), 2 Torque Wrenches (1/yr=2), 6 Alpha Mets (weekly=312), Gram Estimator (daily=260) Units - 575 calibrations Unit Cost - 2 hours per calibration									
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	T070	MAINT. TECHS. (INSTRUMENT TEC	KA20H	371/374 Facility Maint Steelworkers	Linear	1.150.00	Hours
	Factors	575	Calibrations	2	hrs/calibration				

**Line Item 1A - Maintenance Planning**

<b>BOE</b>		Routine GB Maintenance.  RCT time is budgeted in operations.									
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Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	A57	LATA		P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	51.840.00	Dollars
	Factors	1	Planner	60	hours/mo	12	mo/year	72	\$/hour	
	A58	ASI		0000	NONE	SA01S	SSOC 371 Closure Project	Linear	3.000.00	Dollars
	Factors	3000	Dollars/Year							

Activity ID: 1AW3206669 Description: FY01 Glovebox Operations Maintenance

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
01	Routine GB Maintenance	1.00	each	EE	72	72	2,271	0	0	2,271	1,083	3,355
02	Routine GB & Room Filter Replacements	1.00	each	EE	50	50	1,584	5,268	0	6,852	756	7,608
03	GB Guillotine Door Maintenance	1.00	each	EE	80	80	2,566	2,107	0	4,673	1,224	5,898
04	Routine CAM Placement Smoke Test	1.00	each	EE	0	0	0	1,054	0	1,054	0	1,054
0A	Maintenance Planner	1.00	each	EE	0	0	0	54,840	0	54,840	0	54,840
11	Glovebox & C-Cell Routine Maintenance	1.00	each	EE	473	473	11,630	2,634	0	14,264	5,547	19,811
12	Guillotine Door Maintenance	1.00	each	EE	115	115	3,095	527	0	3,622	1,476	5,098
14	Misc Materials	1.00	each	EE	0	0	0	2,634	0	2,634	0	2,634
15	Misc Work Activities - Emergent Work	1.00	each	EE	0	0	0	2,634	0	2,634	0	2,634
16	Metrology of Scale & Torque Wrench	1.00	each	EE	1,150	1,150	25,541	0	0	25,541	12,183	37,725
1A	Maintenance Planner	1.00	each	EE	0	0	0	54,840	0	54,840	0	54,840
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	10,455	10,455	0	10,455
Total for Activity 1AW3206669:						1,940	46,688	126,537	10,455	183,680	22,270	205,950

**Line Item 01 - Routine GB Maintenance**

<b>BOE</b>		Routine GB Maintenance.  RCT time is budgeted in operations.									
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	24.00	Hours
	Factors 24 hrs								
	750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	8.00	Hours
	Factors 8 hrs								
	750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	40.00	Hours
Factors 40 hrs									

**Line Item 02 - Routine GB & Room Filter Replacements**

<b>BOE</b>		This work order will provide routine GB & room filter replacements.  RCT time is budgeted in operations.									
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
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WBS No: 1AAG  
Activity ID: 1AW3206669

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1AAG  
\*

Starts In FY \*

750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	8.00	Hours
Factors	8	hrs						
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	4.00	Hours
Factors	4	hrs						
750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	8.00	Hours
Factors	8	hrs						
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	30.00	Hours
Factors	30	hrs						
A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	5,075.00	Dollars
Factors	5000	\$	1.015 -- FY00 Escalation --					
A5T	TAXES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	192.85	Dollars
Factors	5000	\$	0.038 3.8% Sales Tax	1.015 -- FY00 Escalation --				

**Line Item 03 - GB Guillotine Door Maintenance**

BOE

This work order provides for GB Guillotine Door Maintenance.  
RCT time is budgeted in operations.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	24.00	Hours
Factors	24	hrs						
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	8.00	Hours
Factors	8	hrs						
750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	8.00	Hours
Factors	8	hrs						
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	40.00	Hours
Factors	40	hrs						
A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	2,030.00	Dollars
Factors	2000	\$	1.015 -- FY00 Escalation --					
A5T	TAXES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	77.14	Dollars
Factors	2000	\$	0.038 3.8% Sales Tax	1.015 -- FY00 Escalation --	1.015 -- FY00 Escalation --			

**Line Item 04 - Routine CAM Placement Smoke Test**

BOE

This work order provides for Routine CAM Placement Smoke Tests.  
RCT time is budgeted in operations.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	1,015.00	Dollars
Factors	1000	\$	1.015 -- FY00 Escalation --					
A5T	TAXES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	38.57	Dollars
Factors	1000	\$	0.038 3.8% Sales Tax	1.015 -- FY00 Escalation --				

**Line Item 0A - Maintenance Planner**

BOE

Routine GB Maintenance.  
RCT time is budgeted in operations.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
A57	LATA	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	51.840.00	Dollars
Factors	1	Planner	60 hours/mo	12	mo/year	72 \$/hour		
A58	ASI	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	3,000.00	Dollars
Factors	3000	Dollars/Year						

**Line Item 11 - Glovebox & C-Cell Routine Maintenance**

BOE

Historical Data Source - Building 371 maintenance in FY98  
Item Desc -  
Breakdown of Historical Data:  
Item -  
Units -

WBS No: 1AAG  
Activity ID: 1AW3206669

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

Unit Cost -  
Unit Cost Adjustment factor -  
Revised Unit Cost -  
Basis for adjustment -

RCT time is budgeted in operations.

**Resources**

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	C010	CARPENTERS	KA20H	371/374 Facility Mgmt Steelworkers	Linear	80.00	Hours
Factors	2	carps	40	hrs				
750	STRAIGHT TIME BASE	C020	ELECTRICIANS	KA20H	371/374 Facility Mgmt Steelworkers	Linear	80.00	Hours
Factors	2	electricians	40	hrs				
750	STRAIGHT TIME BASE	C040	MAINTENANCE MACHINIST (incl Exp	KA20H	371/374 Facility Mgmt Steelworkers	Linear	24.00	Hours
Factors	1	Machinist	24	hrs				
750	STRAIGHT TIME BASE	C070	PAINTERS	KA20H	371/374 Facility Mgmt Steelworkers	Linear	44.00	Hours
Factors	1	Painter	44	hrs				
750	STRAIGHT TIME BASE	C090	STRUCTURAL AND METAL WORKE	KA20H	371/374 Facility Mgmt Steelworkers	Linear	80.00	Hours
Factors	2	sheetmetal wrkrs	40	hrs				
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	27.00	Hours
Factors	1	Engineer (HVAC/Mech.)	27	hrs				
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	27.00	Hours
Factors	1	Nuc Safety Eng	27	hrs				
750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	4.00	Hours
Factors	1	Quality Reviewer/Inspector	4	hrs				
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	27.00	Hours
Factors	1	Mtce Planner	27	hrs				
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	80.00	Hours
Factors	2	Mtce Planners	40	hrs				
A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	2,537.50	Dollars
Factors	2500	Windows, gaskets, gloves, shielding,	1.015	-- FY00 Escalation --				
A5T	TAXES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	96.43	Dollars
Factors	2500	\$	0.038	3.8% Sales Tax	1.015	-- FY00 Escalation --		

**Line Item 12 - Guillotine Door Maintenance**

**BOE**

Historical Data Source - Building 371 maintenance in FY98

Item Desc -  
Breakdown of Historical Data:  
Item -  
Units -  
Unit Cost -  
Unit Cost Adjustment factor -  
Revised Unit Cost -  
Basis for adjustment -

RCT time is budgeted in operations.

**Resources**

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	C080	PLUMBERS AND PIPEFITTERS	KA20H	371/374 Facility Mgmt Steelworkers	Linear	20.00	Hours
Factors	1	Pipefitter	20	hrs				
750	STRAIGHT TIME BASE	C090	STRUCTURAL AND METAL WORKE	KA20H	371/374 Facility Mgmt Steelworkers	Linear	40.00	Hours
Factors	2	sheetmetal wrkrs	20	hrs				
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	27.00	Hours
Factors	1	Mech./HVAC	27	hrs				
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	8.00	Hours
Factors	1	Nuc Safety Eng	8	hrs				
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	20.00	Hours
Factors	20	hrs	1	Mtce Planner				



WBS No: 1AAG  
Activity ID: 1AW3206669

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1AAG  
\*

Starts In FY \*

A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	507.50	Dollars
Factors	500	Misc. materials	1.015	-- FY00 Escalation --				
A5T	TAXES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	19.28	Dollars
Factors	500	\$	0.038	3.8% Sales Tax	1.015	-- FY00 Escalation --		

**Line Item 14 - Misc Materials**

**BOE**

Historical Data Source - Building 371 maintenance in FY98  
Item Desc -  
Breakdown of Historical Data:  
Item -  
Units -  
Unit Cost -  
Unit Cost Adjustment factor -  
Revised Unit Cost -  
Basis for adjustment -

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	2,537.50	Dollars
Factors	2500	SCBA, Gloves Bagout Bags, Hand	1.015	-- FY00 Escalation --				
A5T	TAXES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	96.43	Dollars
Factors	2500	\$	0.038	3.8% Sales Tax	1.015	-- FY00 Escalation --		

**Line Item 15 - Misc Work Activities - Emergent Work**

**BOE**

Historical Data Source - Building 371 maintenance in FY98  
Item Desc -  
Breakdown of Historical Data:  
Item -  
Units -  
Unit Cost -  
Unit Cost Adjustment factor -  
Revised Unit Cost -  
Basis for adjustment -

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	2,537.50	Dollars
Factors	2500	Misc.	1.015	-- FY00 Escalation --				
A5T	TAXES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	96.43	Dollars
Factors	2500	\$	0.038	3.8% Sales Tax	1.015	-- FY00 Escalation --		

**Line Item 16 - Metrology of Scale & Torque Wrench**

**BOE**

Benchmark Source - Metrology Lab and Operations Project Lead  
Benchmark Item Desc - Metrology of Operation Equipment  
Breakdown of Benchmark Data:  
Item - 1 Scale (1/yr), 2 Torque Wrenches (1/yr=2), 6 Alpha Mets (weekly=312), Gram  
Estimator (daily=260)  
Units - 575 calibrations/yr  
Unit Cost - 2 hours per calibration

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	T070	MAINT. TECHS. (INSTRUMENT TEC	KA20H	371/374 Facility Maint Steelworkers	Linear	1,150.00	Hours
Factors	575	Calibrations	2	hrs/calibration				

**Line Item 1A - Maintenance Planner**

**BOE**

Routine GB Maintenance.  
RCT time is budgeted in operations.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
A57	LATA	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	51,840.00	Dollars
Factors	1	Planner	60	hours/mo	12	mo/year	72	\$/hour
A58	ASI	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	3,000.00	Dollars
Factors	3000	Dollars/Year						

WBS No: 1AAG  
Activity ID: 1AW3206669

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	6.343.82	Dollars
Factors 6343.82 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	4.110.83	Dollars
Factors 4110.83 Dollars								

Activity ID: 1AW3206670 Description: FY02 Glovebox Operations Maintenance

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
01	Routine GB Maintenance	0.33	each	EE	152	50	1,299	695	0	1,994	458	2,452
02	Routine GB & Room Filter Replacements	0.33	each	EE	90	30	797	1,738	0	2,536	281	2,817
03	GB Guillotine Door Maintenance	0.33	each	EE	160	53	1,413	695	0	2,109	499	2,608
04	Routine CAM Placement Smoke Test	0.33	each	EE	0	0	0	348	0	348	0	348
11	Glovebox & C-Cell Routine Maintenance	0.33	each	EE	473	156	3,838	869	0	4,707	1,355	6,062
12	Guillotine Door Maintenance	0.33	each	EE	115	38	1,021	174	0	1,195	361	1,556
14	Misc Materials	0.33	each	EE	0	0	0	869	0	869	0	869
15	Misc Work Activities - Emergent Work	0.33	each	EE	0	0	0	869	0	869	0	869
16	Metrology of Scale & Torque Wrench	0.33	each	EE	1,150	380	8,429	0	0	8,429	2,975	11,404
A	Maintenance Planner	0.33	each		0	0	0	18,097	0	18,097	0	18,097
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	7,110	7,110	0	7,110
Total for Activity 1AW3206670:						706	16,797	24,355	7,110	48,262	5,929	54,192

**Line Item 01 - Routine GB Maintenance**

**BOE**

Routine GB Maintenance.

RCT time is budgeted in operations.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C040	MAINTENANCE MACHINIST (incl Exp	KA20H	371/374 Facility Mgmt Steelworkers	Linear	80.00	Hours
Factors 80 hrs								
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	24.00	Hours
Factors 24 hrs								
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	8.00	Hours
Factors 8 hrs								
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	40.00	Hours
Factors 40 hrs								
A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	2,030.00	Dollars
Factors 2000 hrs 1.015 -- FY00 Escalation --								
A5T	TAXES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	77.14	Dollars
Factors 2000 \$ 0.038 3.8% Sales Tax 1.015 -- FY00 Escalation --								

**Line Item 02 - Routine GB & Room Filter Replacements**

**BOE**

This work order will provide routine GB & room filter replacements.

RCT time is budgeted in operations.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C040	MAINTENANCE MACHINIST (incl Exp	KA20H	371/374 Facility Mgmt Steelworkers	Linear	40.00	Hours
Factors 40 hrs								
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	8.00	Hours
Factors 8 hrs								
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	4.00	Hours
Factors 4 hrs								
750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	8.00	Hours
Factors 8 hrs								

WBS No: 1AAG  
Activity ID: 1AW3206670

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1AAG  
\*

Starts In FY \*

750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	30.00	Hours
Factors	30	hrs						
A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	5.075.00	Dollars
Factors	5000	\$	1.015 -- FY00 Escalation --					
A5T	TAXES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	192.85	Dollars
Factors	5000	\$	0.038 3.8% Sales Tax	1.015	-- FY00 Escalation --			

**Line Item 03 - GB Guillotine Door Maintenance**

BOE

This work order provides for GB Guillotine Door Maintenance.  
RCT time is budgeted in operations.

Resources

Cost Element			Skill		Department		Curve		Quantity	Units
750	STRAIGHT TIME BASE		C090	STRUCTURAL AND METAL WORKE	KA20H	371/374 Facility Maint Steelworkers		Linear	80.00	Hours
Factors	80	hrs								
750	STRAIGHT TIME BASE		E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project		Linear	24.00	Hours
Factors	24	hrs								
750	STRAIGHT TIME BASE		E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project		Linear	8.00	Hours
Factors	8	hrs								
750	STRAIGHT TIME BASE		E110	QUALITY CONTROL ENGINEERS	SA01S	SSOC 371 Closure Project		Linear	8.00	Hours
Factors	8	hrs								
750	STRAIGHT TIME BASE		P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project		Linear	40.00	Hours
Factors	40	hrs								
A5C	SUPPLIES		0000	NONE	SA01S	SSOC 371 Closure Project		Linear	2.030.00	Dollars
Factors	2000	\$	1.015 -- FY00 Escalation --							
A5T	TAXES		0000	NONE	SA01S	SSOC 371 Closure Project		Linear	77.14	Dollars
Factors	2000	\$	0.038	3.8% Sales Tax	1.015	-- FY00 Escalation --		1.015	-- FY00 Escalation --	

**Line Item 04 - Routine CAM Placement Smoke Test**

BOE

This work order provides for Routine CAM Placement Smoke Tests.  
RCT time is budgeted in operations.

Resources

Cost Element			Skill		Department		Curve	Quantity	Units
A5C	SUPPLIES		0000	NONE	SA01S	SSOC 371 Closure Project	Linear	1.015.00	Dollars
Factors	1000	\$	1.015 -- FY00 Escalation --						
A5T	TAXES		0000	NONE	SA01S	SSOC 371 Closure Project	Linear	38.57	Dollars
Factors	1000	\$	0.038	3.8% Sales Tax	1.015	-- FY00 Escalation --			

**Line Item 11 - Glovebox & C-Cell Routine Maintenance**

BOE

Historical Data Source - Building 371 maintenance in FY98  
Item Desc -  
Breakdown of Historical Data:  
Item -  
Units -  
Unit Cost -  
Unit Cost Adjustment factor -  
Revised Unit Cost -  
Basis for adjustment -  
RCT time is budgeted in operations.

Resources

Cost Element			Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		C010	CARPENTERS	KA20H	371/374 Facility Maint Steelworkers	Linear	80.00	Hours
Factors	2	carps	40	hrs					
750	STRAIGHT TIME BASE		C020	ELECTRICIANS	KA20H	371/374 Facility Maint Steelworkers	Linear	80.00	Hours
Factors	2	electricians	40	hrs					
750	STRAIGHT TIME BASE		C040	MAINTENANCE MACHINIST (incl Exp	KA20H	371/374 Facility Maint Steelworkers	Linear	24.00	Hours
Factors	1	Machinist	24	hrs					

WBS No: 1AAG  
Activity ID: 1AW3206670

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1AAG  
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Starts In FY \*

750	STRAIGHT TIME BASE	C070	PAINTERS	KA20H	371/374 Facility Mamt Steelworkers	Linear	44.00	Hours
Factors	1	Painter	44	hrs				
750	STRAIGHT TIME BASE	C090	STRUCTURAL AND METAL WORKE	KA20H	371/374 Facility Mamt Steelworkers	Linear	80.00	Hours
Factors	2	sheetmetal wrkrs	40	hrs				
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	27.00	Hours
Factors	1	Engineer (HVAC/Mech.)	27	hrs				
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	27.00	Hours
Factors	1	Nuc Safety Eng	27	hrs				
750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	4.00	Hours
Factors	1	Quality Reviewer/Inspector	4	hrs				
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	27.00	Hours
Factors	1	Mtce Planner	27	hrs				
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	80.00	Hours
Factors	2	Mtce Planners	40	hrs				
A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	2,537.50	Dollars
Factors	2500	Windows, gaskets, gloves, shielding,	1.015	-- FY00 Escalation --				
A5T	TAXES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	96.43	Dollars
Factors	2500	\$	0.038	3.8% Sales Tax	1.015	-- FY00 Escalation --		

**Line Item 12 - Guillotine Door Maintenance**

**BOE**

Historical Data Source - Building 371 maintenance in FY98  
Item Desc -  
Breakdown of Historical Data:  
Item -  
Units -  
Unit Cost -  
Unit Cost Adjustment factor -  
Revised Unit Cost -  
Basis for adjustment -  
  
RCT time is budgeted in operations.

**Resources**

Cost Element			Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		C080	PLUMBERS AND PIPEFITTERS	KA20H	371/374 Facility Mamt Steelworkers	Linear	20.00	Hours
Factors	1	Pipefitter	20	hrs					
750	STRAIGHT TIME BASE		C090	STRUCTURAL AND METAL WORKE	KA20H	371/374 Facility Mamt Steelworkers	Linear	40.00	Hours
Factors	2	sheetmetal wrkrs	20	hrs					
750	STRAIGHT TIME BASE		E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	27.00	Hours
Factors	1	Mech./HVAC	27	hrs					
750	STRAIGHT TIME BASE		E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	8.00	Hours
Factors	1	Nuc Safety Eng	8	hrs					
750	STRAIGHT TIME BASE		P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	20.00	Hours
Factors	20	hrs	1	Mtce Planner					
A5C	SUPPLIES		0000	NONE	SA01S	SSOC 371 Closure Project	Linear	507.50	Dollars
Factors	500	Misc. materials	1.015	-- FY00 Escalation --					
A5T	TAXES		0000	NONE	SA01S	SSOC 371 Closure Project	Linear	19.28	Dollars
Factors	500	\$	0.038	3.8% Sales Tax	1.015	-- FY00 Escalation --			

**Line Item 14 - Misc Materials**

**BOE**

Historical Data Source - Building 371 maintenance in FY98  
Item Desc -  
Breakdown of Historical Data:  
Item -  
Units -  
Unit Cost -  
Unit Cost Adjustment factor -  
Revised Unit Cost -  
Basis for adjustment -

WBS No: 1AAG  
Activity ID: 1AW3206670

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
A5C	SUPPLIES	0000 NONE	SA01S SSOC 371 Closure Project	Linear	2,537.50	Dollars
Factors	2500 SCBA, Gloves Bagout Bags, Hand	1.015 -- FY00 Escalation --				
A5T	TAXES	0000 NONE	SA01S SSOC 371 Closure Project	Linear	96.43	Dollars
Factors	2500 \$	0.038 3.8% Sales Tax	1.015 -- FY00 Escalation --			

**Line Item 15 - Misc Work Activities - Emergent Work**

BOE	Historical Data Source - Building 371 maintenance in FY98 Item Desc - Breakdown of Historical Data: Item - Units - Unit Cost - Unit Cost Adjustment factor - Revised Unit Cost - Basis for adjustment -					
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Resources	Cost Element	Skill	Department	Curve	Quantity	Units
A5C	SUPPLIES	0000 NONE	SA01S SSOC 371 Closure Project	Linear	2,537.50	Dollars
Factors	2500 Misc.	1.015 -- FY00 Escalation --				
A5T	TAXES	0000 NONE	SA01S SSOC 371 Closure Project	Linear	96.43	Dollars
Factors	2500 \$	0.038 3.8% Sales Tax	1.015 -- FY00 Escalation --			

**Line Item 16 - Metrology of Scale & Torque Wrench**

BOE	Benchmark Source - Metrology Lab and Operations Project Lead Benchmark Item Desc - Metrology of Operation Equipment Breakdown of Benchmark Data: Item - 1 Scale (1/yr), 2 Torque Wrenches (1/yr=2), 6 Alpha Mets (weekly=312), Gram Estimator (daily=260) Units - 575 calibrations/yr Unit Cost - 2 hours per calibration					
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Resources	Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	T070 MAINT. TECHS. (INSTRUMENT TEC	KA20H 371/374 Facility Maint Steelworkers	Linear	1,150.00	Hours
Factors	575 Calibrations	2 hrs/calibration				

**Line Item A - Maintenance Planner**

BOE	Routine GB Maintenance. RCT time is budgeted in operations.					
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Resources	Cost Element	Skill	Department	Curve	Quantity	Units
A57	LATA	P070 COST ESTIMATORS PLANNERS AN	SA01S SSOC 371 Closure Project	Linear	51,840.00	Dollars
Factors	1 Planner	60 hours/mo	12 mo/year	72 \$/hour		
A58	ASI	0000 NONE	SA01S SSOC 371 Closure Project	Linear	3,000.00	Dollars
Factors	3000 Dollars/Year					

**Line Item SYS - Contingency And Escalation**

BOE						
Resources	Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	4,909.33	Dollars
Factors	4909.33 Dollars					
ESC	ESCALATION	0000 NONE	ZDEPT No Department	Linear	2,200.22	Dollars
Factors	2200.22 Dollars					

Activity ID: 1AW351539C Description: FY00 Glovebox32 Administrative Preps.

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
01	Admin Prep	0.12	each	BM	227	27	1,074	1,546	0	2,620	524	3,144
Total for Activity 1AW351539C:						27	1,074	1,546	0	2,620	524	3,144

**Line Item 01 - Admin Prep**

BOE												
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WBS No: 1AAG  
Activity ID: 1AW351539C

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

2.2 - Benchmark Source - Independent Cost Estimate Report, Conceptual Estimate, Job Number EM272920, Rev 0 by Project Time and Cost, Estimated by Terry McClurg, 4/22/98. Modified on 1/14/00 by the Flourides Project Manager to reflect a change in receiver sites.

1) Benchmark Item Desc - ALARA and BIO Review Scope: An As Low As Reasonably Achievable (ALARA) review will be required for the strip out and cleaning of the glove box and room 3515. Also, glove box 32 will be tested to determine the amount of radiation being given off in order to support the ALARA and construction activities.

- Assumptions: No project design or scope change will effect this effort once complete. It is also assumed that no modifications to the BIO will be necessary.

Breakdown of Benchmark Data:

Item - ALARA and BIO

Units - Manhours and Dollars

Unit Cost - Due to the dose intensive nature of this material, a significant effort will be required to address the Radiological issues for the Fluoride project. An ALARA review will be required for the project, a in-progress ALARA review will be required, and an RWP will be required for this process. Radiological Engineering will also be required for all engineering designs, all procedures, and for shipping issues. The estimate includes 1/2 FTE for an Omega subcontractor, and 1/4 of an FTE for B371 Radiological engineering both for the ALARA effort.

Unit Cost Adjustment factor - N/A

Revised Unit Cost - N/A

Basis for adjustment - N/A

2.4 - Benchmark Item Desc - NMSL Scope: The Fluoride Packaging will require Nuclear Material Safety Limits (NMSL's) to be completed prior to operations. These will cover staging, processing, bag-out, in-room storage, vault storage, material movement, NDA count activities, and shipment preparation.

Breakdown of Benchmark Data:

Item - NMSL

Units - Manhours and Dollars

Unit Cost - The project will require NMSL's for the

- GB operation itself (280 hrs), Criticality Engineering

- The work bench (160 hrs), Criticality Engineering

- The transfer cart (200 hrs), Criticality Engineering

- The wall pass thru (160 hrs), Criticality Engineering

- Storage of the transfer cart in both 3513 and the building vault (200 hrs), Criticality Engineering

- Its placement into the POC (240 hrs), Criticality Engineering.

- Misc support, 120 hrs, Criticality engineering.

- 40 hours for a material move NMSL

- 40 hours for a bag-out NMSL

Total Criticality Engineering support = 1440 hrs.

- B371 Criticality Safety Officer, 1/6 FTE to NMSL's, procedure review, develop/maintain postings.

- 1/6 FTE for Radiological Engineering subcontractor (Omega)

Unit Cost Adjustment factor - N/A

Revised Unit Cost - N/A

Basis for adjustment - N/A

2.6 - Benchmark Item Desc - USQD of Procedures Scope: Three reviews of the project for USQD's (an Unreviewed Safety Question Determination) are necessary as the Authorization Basis for performing the Fluoride repackaging work. One will be performed for the staging, movement, and handling of the material, one for the processing of the material, and one to address hold-up issues.

- Assumptions: No design or scope change will require a revised or new USQD.

Breakdown of Benchmark Data:

Item - USQD

Units - Manhours and Dollars

Unit Cost - 1 H&S FTE for 1000 hours.

Unit Cost Adjustment factor - N/A

Revised Unit Cost - N/A

Basis for adjustment - N/A

2.7 - Benchmark Item Desc - JHA of operations Scope:

- Assumptions: No design or scope change will require a revised or new JHA.

WBS No: 1AAG  
Activity ID: 1AW351539C

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

Breakdown of Benchmark Data: Item - JHA Units - Manhours and Dollars Unit Cost - 1 H&S FTE for 1000 hours. Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A Basis for adjustment - N/A
2.9 - Benchmark Item Desc - ACE of operations Scope:  - Assumptions: No design or scope change will require a revised or new ACE.
Breakdown of Benchmark Data: Item - ACE Units - Manhours and Dollars Unit Cost - 6 FTEs for 3 weeks at 40 hours each. Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A Basis for adjustment - N/A
5.1 - Benchmark Item Desc - Operations hiring Scope: 14 operators and 2 foreman comprising the crew will be needed for the repackaging of Fluorides. 14 operators will be hired for the repackaging of Fluorides. - Assumptions: It is assumed that the 14 operators and 2 foreman that are needed can be identified, hired, trained, and receive the necessary security clearances within the time frame necessary to meet the proposed schedule. It is assumed that the timing of the operator hiring will match the proposed schedule sequencing. Because of this, the estimate does not include funding to support the operators after the general training but prior to procedure V&V, job specific training, and operations. Also, it is assumed that any costs in excess of those listed in the cost estimate associated with hiring, training, and security clearances will be covered from another funding source.
Breakdown of Benchmark Data: Item - Operations Hiring Units - Manhours and Dollars Unit Cost - 14 operators (process specialists and risk reduction techs) for 1,850 hours each. Includes hiring, general training, and Q-clearance. Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A Basis for adjustment - N/A
5.1 - Benchmark Item Desc - Operations hiring Scope: 4 operators will be needed for the repackaging of Fluorides to replace operators lost to attrition. 14 operators total are necessary for the repackaging of Fluorides. - Assumptions: It is assumed that the 4 operators that are needed can be identified, hired, trained, and receive the necessary security clearances within the time frame necessary to meet the proposed schedule. It is assumed that the timing of the operator hiring will match the proposed schedule sequencing. Because of this, the estimate does not include funding to support the operators after the general training but prior to procedure V&V, job specific training, and operations. Also, it is assumed that any costs in excess of those listed in the cost estimate associated with hiring, training, and security clearances will be covered from another funding source.
Breakdown of Benchmark Data: Item - Operations Hiring Units - Manhours and Dollars Unit Cost - 4 operators (process specialists and risk reduction techs) for 1,650 hours each. Includes hiring, general training, and Q-clearance. Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A Basis for adjustment - N/A
5.2 - Benchmark Item Desc - Procedure Development Scope: A procedure will be developed for the Fluoride Repackaging effort. This procedure will be utilized during operations. Also, it is assumed that no building procedures will require modification in support of fluoride repackaging. - Assumptions: Once finalized, the procedures will require only minor modifications.
Breakdown of Benchmark Data: Item - Procedure Development Units - Manhours and Dollars Unit Cost - The repackaging procedure will require four days for each of 16 review groups as follows: Crit Eng, Fire Protection, Industrial Hygiene & Safety, Nuc. Safety, Quality Assurance, Rad Eng, Nuc. Mat. Safeguards, Closure Projects, Traffic Mgmt, Waste Cer. & Oversight, Special Nuclear Material Project, TRU Waste Programs, Rad. Ops., B371 Mgmt, B371 Eng, Wet Combustible Operations. Additionally, one technical editor for 600 hours is required.



WBS No: 1AAG  
Activity ID: 1AW351539C

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

Unit Cost Adjustment factor - N/A  
Revised Unit Cost - N/A  
Basis for adjustment - N/A

5.3 - NEPA, PCP, RCRA

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	80.00	Hours
Factors	80 hrs	1						
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	147.00	Hours
Factors	147 hrs	1						
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	0.00	Hours
Factors	7400 Hours	0	Budget in Repack					
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	0.00	Hours
Factors	12950 hrs	0	Budget in Repack					
A57	LATA	E130	OTHER ENGINEERS	KA10S	B371 ESH&Q	Linear	12.933.00	Dollars
Factors	12933 \$	1						

Activity ID: 1AW351549A Description: FY00 GB32 V&V Procedures/Training & MR

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1AG351549A	Training/Qualifications & Procedure V&V	0.30	ea	BM	1.920	574	11.656	5.649	0	17.305	5.688	22.993
1AG351549B	MR Prep	0.30	each	BM	2.220	664	27.558	0	0	27.558	13.448	41.006
1AG351559C	Resolve MR Issues	0.30	each	BM	1.180	353	7.512	0	0	7.512	3.666	11.178
A1G351559B	Fluorides MR	0.30	each	BM	1.120	335	6.799	0	0	6.799	3.318	10.117
Total for Activity 1AW351549A:						1.925	53.525	5.649	0	59.174	26.120	85.294

**Line Item 1AG351549A - Training/Qualifications & Procedure V&V**

**BOE**

Benchmark Source - Independent Cost Estimate Report, Conceptual Estimate, Job Number EM272920, Rev 0 by Project Time and Cost, Estimated by Terry McClurg, 4/22/98.  
Benchmark Item Desc -  
Breakdown of Benchmark Data:  
Item -  
Units - Manhours and Dollars  
Unit Cost -  
Unit Cost Adjustment factor - N/A  
Revised Unit Cost - N/A  
Basis for adjustment - N/A

5.3 - Training and Qualifications: Estimate Basis: The training and qualification of operators will require 20 operators and 2 foreman for 22 days. In addition, time has been included for trainers to support this activity. Overtime has also been included for the operators. Additional support will be provided by the project team under the project management activity.

Assumptions: It is assumed that the training and qualification phase can be complete within this 22 day time frame.

5.8 - Procedure V&V Estimate Basis: The V&V of the procedure will require 14 operators and 2 foreman 3 weeks to complete. Overtime has also been included for the operators. Additional support will be provided by the project team under the project management activity.

Assumptions: It is assumed that the V&V process can be completed within the 22 day time frame. It is assumed that there will be minimal support required from other organizations.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	1.080.00	Hours
Factors	1080 hrs	1						
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	840.00	Hours
Factors	840 Hours	1						
A57	LATA	0000	NONE	KA10S	B371 ESH&Q	Linear	18.900.00	Dollars
Factors	189 hrs	100	LATA Trainers					

**Line Item 1AG351549B - MR Prep**

**BOE**

MR Prep Labor & Supplies:

WBS No: 1AAG  
Activity ID: 1AW351549A

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

Benchmark Source - Independent Cost Estimate Report, Conceptual Estimate, Job Number EM272920, Rev 0 by Project Time and Cost, Estimated by Terry McClurg, 4/22/98. Estimate modified on 1/17/00 by the Flourides Project Manager to reflect a change in the receiver site.

Benchmark Item Desc -  
Breakdown of Benchmark Data:  
Item -  
Units - Manhours and Dollars  
Unit Cost -  
Unit Cost Adjustment factor - N/A  
Revised Unit Cost - N/A  
Basis for adjustment - N/A

01 - MR Estimate Basis: Coverage for 20 operators (process specialists and risk reduction techs) and two foreman for 2 weeks or MR Prep.

5.6B - MR Dry Run Estimate Basis: Coverage for an eight person MR team and estimated time and costs are sufficient to meet the requirements for the MR Dry Run.

Resources		Cost Element	Skill	Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	40.00	Hours
Factors	40 hrs		1					
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	1.800.00	Hours
Factors	1800 hrs		1					
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	KA10S	B371 ESH&Q	Linear	320.00	Hours
Factors	320 hrs		1 Other Enr					
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	KA10S	B371 ESH&Q	Linear	60.00	Hours
Factors	60 hrs		1 Rad Enr					

**Line Item 1AG351559C - Resolve MR Issues**

BOE	Benchmark Source - Independent Cost Estimate Report, Conceptual Estimate, Job Number EM272920, Rev 0 by Project Time and Cost, Estimated by Terry McClurg, 4/22/98. Estimate modified on 1/17/00 by the Flourides Project Manager to reflect a change in the receiver site. Benchmark Item Desc - Breakdown of Benchmark Data: Item - Units - Manhours and Dollars Unit Cost - Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A Basis for adjustment - N/A  Resolve MR Issues Estimate Basis: Coverage of Ops/Roreman Labor, Procedure Development, Review Team labor, and Additional Review Team Labor are sufficient to cover the MR.
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Resources		Cost Element	Skill	Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	20.00	Hours
Factors	20 hrs		1					
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	40.00	Hours
Factors	40 hrs		1					
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	1.120.00	Hours
Factors	1120 hrs		1					

**Line Item A1G351559B - Fluorides MR**

BOE	Benchmark Source - Independent Cost Estimate Report, Conceptual Estimate, Job Number EM272920, Rev 0 by Project Time and Cost, Estimated by Terry McClurg, 4/22/98. Estimate modified on 1/17/00 by the Flourides Project Manager to reflect a change in the receiver site. Benchmark Item Desc - Breakdown of Benchmark Data: Item - Units - Manhours and Dollars Unit Cost - Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A Basis for adjustment - N/A  01a, 5.6a, 5.6b; MR Operators, Foreman, Review Team and Addt'l Review Team Labor Estimate Basis: Coverage for a 14-person crew and 2 foreman and a multi-
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WBS No: 1AAG  
Activity ID: 1AW351549A

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \* Starts In FY \*

discipline review team for 2 weeks are sufficient to cover the MR.

**Resources**

Cost Element	Skill	Department	Curve	Quantity	Units
750 STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	1.120.00	Hours

Factors 1120 hrs

1

Activity ID: 1AW351549C Description: FY01 Glovebox32 Administrative Preps.

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
01	Admin Prep	0.18	each	BM	227	41	1.611	16.796	0	18.407	768	19.175
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	1.025	1.025	0	1.025
Total for Activity 1AW351549C:						41	1.611	16.796	1.025	19.432	768	20.200

**Line Item 01 - Admin Prep**

**BOE**

2.2 - Benchmark Source - Independent Cost Estimate Report, Conceptual Estimate, Job Number EM272920, Rev 0 by Project Time and Cost, Estimated by Terry McClurg, 4/22/98. Modified on 1/14/00 by the Flourides Project Manager to reflect a change in receiver sites.

1) Benchmark Item Desc - ALARA and BIO Review Scope: An As Low As Reasonably Achievable (ALARA) review will be required for the strip out and cleaning of the glove box and room 3515. Also, glove box 32 will be tested to determine the amount of radiation being given off in order to support the ALARA and construction activities.

- Assumptions: No project design or scope change will effect this effort once complete. It is also assumed that no modifications to the BIO will be necessary.

**Breakdown of Benchmark Data:**

Item - ALARA and BIO

Units - Manhours and Dollars

Unit Cost - Due to the dose intensive nature of this material, a significant effort will be required to address the Radiological issues for the Fluoride project. An ALARA review will be required for the project, a in-progress ALARA review will be required, and an RWP will be required for this process. Radiological Engineering will also be required for all engineering designs, all procedures, and for shipping issues. The estimate includes 1/2 FTE for an Omega subcontractor, and 1/4 of an FTE for B371 Radiological engineering both for the ALARA effort.

Unit Cost Adjustment factor - N/A

Revised Unit Cost - N/A

Basis for adjustment - N/A

2.4 - Benchmark Item Desc - NMSL Scope: The Fluoride Packaging will require Nuclear Material Safety Limits (NMSL's) to be completed prior to operations. These will cover staging, processing, bag-out, in-room storage, vault storage, material movement, NDA count activities, and shipment preparation.

**Breakdown of Benchmark Data:**

Item - NMSL

Units - Manhours and Dollars

Unit Cost - The project will require NMSL's for the

- GB operation itself (280 hrs), Criticality Engineering

- The work bench (160 hrs), Criticality Engineering

- The transfer cart (200 hrs), Criticality Engineering

- The wall pass thru (160 hrs), Criticality Engineering

- Storage of the transfer cart in both 3513 and the building vault (200 hrs), Criticality Engineering

- Its placement into the POC (240 hrs), Criticality Engineering.

- Misc support, 120 hrs, Criticality engineering.

- 40 hours for a material move NMSL

- 40 hours for a bag-out NMSL

Total Criticality Engineering support = 1440 hrs.

- B371 Criticality Safety Officer, 1/6 FTE to NMSL's, procedure review, develop/maintain postings.

- 1/6 FTE for Radiological Engineering subcontractor (Omega)

Unit Cost Adjustment factor - N/A

Revised Unit Cost - N/A

Basis for adjustment - N/A

2.6 - Benchmark Item Desc - USQD of Procedures Scope: Three reviews of the project for USQD's (an Unreviewed Safety Question Determination) are necessary as the Authorization Basis for performing the Fluoride repackaging work. One will be performed for the staging, movement, and handling of the material, one for the processing of the material, and one to address hold-up issues.

WBS No: 1AAG  
Activity ID: 1AW351549C

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

*Starts In FY \**

<p>- Assumptions: No design or scope change will require a revised or new USQD.</p> <p>Breakdown of Benchmark Data: Item - USQD Units - Manhours and Dollars Unit Cost - 1 H&amp;S FTE for 1000 hours. Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A Basis for adjustment - N/A</p> <p>2.7 - Benchmark Item Desc - JHA of operations Scope:</p> <p>- Assumptions: No design or scope change will require a revised or new JHA.</p> <p>Breakdown of Benchmark Data: Item - JHA Units - Manhours and Dollars Unit Cost - 1 H&amp;S FTE for 1000 hours. Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A Basis for adjustment - N/A</p> <p>2.9 - Benchmark Item Desc - ACE of operations Scope:</p> <p>- Assumptions: No design or scope change will require a revised or new ACE.</p> <p>Breakdown of Benchmark Data: Item - ACE Units - Manhours and Dollars Unit Cost - 6 FTEs for 3 weeks at 40 hours each. Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A Basis for adjustment - N/A</p> <p>5.1 - Benchmark Item Desc - Operations hiring Scope: 14 operators and 2 foreman comprising the crew will be needed for the repackaging of Fluorides. 14 operators will be hired for the repackaging of Fluorides. - Assumptions: It is assumed that the 14 operators and 2 foreman that are needed can be identified, hired, trained, and receive the necessary security clearances within the time frame necessary to meet the proposed schedule. It is assumed that the timing of the operator hiring will match the proposed schedule sequencing. Because of this, the estimate does not include funding to support the operators after the general training but prior to procedure V&amp;V, job specific training, and operations. Also, it is assumed that any costs in excess of those listed in the cost estimate associated with hiring, training, and security clearances will be covered from another funding source.</p> <p>Breakdown of Benchmark Data: Item - Operations Hiring Units - Manhours and Dollars Unit Cost - 14 operators (process specialists and risk reduction techs) for 1,850 hours each. Includes hiring, general training, and Q-clearance. Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A Basis for adjustment - N/A</p> <p>5.1 - Benchmark Item Desc - Operations hiring Scope: 4 operators will be needed for the repackaging of Fluorides to replace operators lost to attrition. 14 operators total are necessary for the repackaging of Fluorides. - Assumptions: It is assumed that the 4 operators that are needed can be identified, hired, trained, and receive the necessary security clearances within the time frame necessary to meet the proposed schedule. It is assumed that the timing of the operator hiring will match the proposed schedule sequencing. Because of this, the estimate does not include funding to support the operators after the general training but prior to procedure V&amp;V, job specific training, and operations. Also, it is assumed that any costs in excess of those listed in the cost estimate associated with hiring, training, and security clearances will be covered from another funding source.</p> <p>Breakdown of Benchmark Data: Item - Operations Hiring Units - Manhours and Dollars Unit Cost - 4 operators (process specialists and risk reduction techs) for 1,650 hours each. Includes hiring, general training, and Q-clearance.</p>	
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WBS No: 1AAG  
Activity ID: 1AW351549C

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A Basis for adjustment - N/A												
5.2 - Benchmark Item Desc - Procedure Development Scope: A procedure will be developed for the Fluoride Repackaging effort. This procedure will be utilized during operations. Also, it is assumed that no building procedures will require modification in support of fluoride repackaging. - Assumptions: Once finalized, the procedures will require only minor modifications.												
Breakdown of Benchmark Data: Item - Procedure Development Units - Manhours and Dollars Unit Cost - The repackaging procedure will require four days for each of 16 review groups as follows: Crit Eng, Fire Protection, Industrial Hygiene & Safety, Nuc. Safety, Quality Assurance, Rad Eng, Nuc. Mat. Safeguards, Closure Projects, Traffic Mgmt, Waste Cer. & Oversight, Special Nuclear Material Project, TRU Waste Programs, Rad. Ops., B371 Mgmt, B371 Eng, Wet Combustible Operations. Additionally, one technical editor for 600 hours is required. Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A Basis for adjustment - N/A												
5.3 - NEPA, PCP, RCRA												

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	80.00	Hours
Factors	80 hrs		1					
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	147.00	Hours
Factors	147 hrs		1					
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	0.00	Hours
Factors	7400 Hours		0 Budget in Repack					
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	0.00	Hours
Factors	12950 hrs		0 Budget in Repack					
A57	LATA	E130	OTHER ENGINEERS	KA10S	B371 ESH&Q	Linear	12.933.00	Dollars
Factors	12933 \$		1					
A5H	SUBCONTRACTED SRVS	E120	SAFETY ENGINEERS	KA10S	B371 ESH&Q	Linear	42.000.00	Dollars
Factors	42000 \$		1					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	KA10S	B371 ESH&Q	Linear	38.720.00	Dollars
Factors	38720 \$		1					

**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	622.23	Dollars
Factors	622.228 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	403.21	Dollars
Factors	403.208 Dollars							

Activity ID: 1AW351569A Description: FY01 GB32 V&V Procedures/Training

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
01	Trainino/Qualifications & Procedure V&V	0.30	ea	BM	3.930	1.175	25.575	5.649	0	31.225	12.199	43.424
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.322	2.322	0	2.322
Total for Activity 1AW351569A:						1.175	25.575	5.649	2.322	33.547	12.199	45.746

**Line Item 01 - Training/Qualifications & Procedure V&V**

**BOE**

Benchmark Source - Independent Cost Estimate Report, Conceptual Estimate, Job Number EM272920, Rev 0 by Project Time and Cost, Estimated by Terry McClurg, 4/22/98. Benchmark Item Desc - Breakdown of Benchmark Data: Item - Units - Manhours and Dollars Unit Cost - Unit Cost Adjustment factor - N/A												
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WBS No: 1AAG  
Activity ID: 1AW351569A

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \* Starts In FY \*

Revised Unit Cost - N/A  
Basis for adjustment - N/A

Training and Qualifications: Estimate Basis: The training and qualification of operators will require 20 operators and 2 foremen for 22 days. In addition, time has been included for trainers to support this activity. Overtime has also been included for the operators. Additional support will be provided by the project team under the project management activity.

Assumptions: It is assumed that the training and qualification phase can be complete within this 22 day time frame.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	240.00	Hours
Factors	240 hrs		1				
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	3.366.00	Hours
Factors	17 Operators		22 days	9 hours/day			
751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	24.00	Hours
Factors	24 hrs		1				
751	OVERTIME BASE & PRE.	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	216.00	Hours
Factors	216 hrs		1				
751	OVERTIME BASE & PRE.	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	84.00	Hours
Factors	84 hrs		1				
A57	LATA	0000	NONE	KA10S B371 ESH&Q	Linear	18.900.00	Dollars
Factors	18900 \$		1 LATA Proc Writer				

**Line Item SYS - Contingency And Escalation**

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT No Department	Linear	1.409.11	Dollars
Factors	1409.11 Dollars						
ESC	ESCALATION	0000	NONE	ZDEPT No Department	Linear	913.11	Dollars
Factors	913.112 Dollars						

Activity ID: 1AW351571A Description: FY00 Fluorides GB 32 Repack Operations/Mtce.

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1AG351560A	FY00 Transport/Stage for Repack	11.57	wk	HC	246	2.843	77.639	21.141	0	98.780	37.774	136.554
1AG3515702	FY00 GB32 Repack-101 Cans	11.57	wk	HC	608	7.036	152.482	115.716	0	268.198	74.188	342.386
1AG351570D	FY00 NMH&P Support	11.57	wk	HC	40	463	12.780	0	0	12.780	6.218	18.997
Mtce	Maintenance Planning	11.57	wk	HC	28	319	12.143	12.122	0	24.265	5.908	30.173
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	3.565	3.565	0	3.565
Total for Activity 1AW351571A:						10.661	255.043	148.979	3.565	407.587	124.087	531.675

**Line Item 1AG351560A - FY00 Transport/Stage for Repack**

BOE Staging Fluorides in CSV Estimate Basis: The estimate includes funding for moving any fluorides that do not currently reside in 371. It is assumed that most of the fluoride material was identified and moved previously. Some funding is being included to account for the movement of any remaining Fluorides discovered during the life of this project. The FY01 and 02 estimate is planned to be 10% of the baseline costs.

Assumptions: It is assumed that the transfer of material from other buildings can be made in a timely manner with minimal interference. It is also assumed that moving the material into the CSV will not result in more than 15 drums of waste (assumes that the 10 gallon containers can be free released) and that the cost per drum will not exceed \$5,000.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	R100S RMRS Salaried	Linear	14.40	Hours
Factors	14.4 hrs						
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	R100S RMRS Salaried	Linear	1.08	Hours
Factors	1.08 hrs						
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S SSOC 371 Closure Project	Linear	0.72	Hours
Factors	0.72 hrs						
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	135.00	Hours
Factors	135 hrs						

WBS No: 1AAG  
Activity ID: 1AW351571A

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1AAG  
\*

Starts In FY \*

750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	9.00	Hours
Factors	9	hrs						
750	STRAIGHT TIME BASE	P140	SAFEGUARDS AND OTHER SECURI	SA01S	SSOC 371 Closure Project	Linear	40.50	Hours
Factors	40.5	hrs						
750	STRAIGHT TIME BASE	P140	SAFEGUARDS AND OTHER SECURI	SA01S	SSOC 371 Closure Project	Linear	22.50	Hours
Factors	22.5	hrs						
750	STRAIGHT TIME BASE	P140	SAFEGUARDS AND OTHER SECURI	W102S	Operations/Training	Linear	22.50	Hours
Factors	22.5	hrs						
A52	TENERA	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	1,826.97	Dollars
Factors	1826.97	Dollars						

**Line Item 1AG3515702 - FY00 GB32 Repack-101 Cans**

**BOE**

Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 14 operators and 2 Foreman per week of processing.

Assumptions: It is assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum.

**Resources**

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	C080	PLUMBERS AND PIPEFITTERS	KA20H	371/374 Facility Maint Steelworkers	Linear	0.00	Hours
Factors	50	hrs/wk-shft	0	shifts				
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	0.00	Hours
Factors	10	hrs/wk-shft	0	shifts				
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	0.00	Hours
Factors	100	hrs/wk-shft	0	shifts				
750	STRAIGHT TIME BASE	P050	COMPLIANCE INSPECTORS	SA01S	SSOC 371 Closure Project	Linear	0.00	Hours
Factors	20	hrs/wk-shft	0	shifts				
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	0.00	Hours
Factors	8	hrs/wk-shft	0	shifts				
750	STRAIGHT TIME BASE	P140	SAFEGUARDS AND OTHER SECURI	SA01S	SSOC 371 Closure Project	Linear	160.00	Hours
Factors	80	hrs/wk-shft	2	shifts	1 s126s/t110			
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	SA01S	SSOC 371 Closure Project	Linear	0.00	Hours
Factors	20	hrs/wk-shft	0	shifts				
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	448.00	Hours
Factors	35	hrs/wk	2	shifts	8 st ops/shift	0.8 time on other activities		
A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	10,000.00	Dollars
Factors	10000	\$/drum-shft	1	shifts				

**Line Item 1AG351570D - FY00 NMH&P Support**

**BOE**

Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 2 NMH&P personnel per week of processing.

Assumptions: It is assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum.

**Resources**

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	40.00	Hours
Factors	20	hrs/wk-shft	2	shifts	1 NMH&P Frmn			
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KF10H	Matt Steward Steel Workers	Linear	0.00	Hours
Factors	40	hrs/wk-shft	2	shifts	2 NMH&P Op	0 5/31 M.S. Dbl Bdgt		

**Line Item Mtce - Maintenance Planning**

**BOE**

Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 50 hours per week of processing to cover 2 maintenance tasks a month at 100 hours per task.

**Resources**

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	13.80	Hours
Factors	60	hours/mo	0.23	mo/wk				
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	13.80	Hours
Factors	60	hours/mo	0.23	mo/wk				



WBS No: 1AAG  
Activity ID: 1AW351571A

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

A57	LATA	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project	Linear	993.60	Dollars
Factors	1	Planner	60	hours/mo	0.23	mo/wk	72	\$/hour
A58	ASI	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	54.00	Dollars
Factors	12	Dollars/Day	4.5	day/week				

**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2.090.74	Dollars
Factors	2090.74 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.473.85	Dollars
Factors	1473.85 Dollars							

Activity ID: 1AW351571B Description: FY01 Fluorides GB 32 Repack Operations/Mtce.

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1AG351561A	FY01 Transport/Stage for Repack	48.22	wk	BM	481	23.216	637.396	420.965	0	1.058.361	290.815	1.349.177
1AG351570B	Prep for Fluorides Repack Operations	1.93	wk	BM	752	1.450	33.275	0	0	33.275	15.182	48.457
1AG3515711	FY01 GB32 Repack-540 Cans	48.22	wk	BM	886	42.718	1.008.347	482.150	0	1.490.497	460.063	1.950.561
1AG351571C	FY01 Lab Sampling	0.96	ea	BM	0	0	0	76.662	0	76.662	0	76.662
1AG351571D	FY01 NMH&P Support	48.22	wk	BM	40	1.929	53.249	0	0	53.249	24.295	77.544
1AG351581A	FY01 Shipping Support	6.75	each	BM	0	0	0	0	0	0	0	0
Mtce	Maintenance Planning	48.22	wk	BM	28	1.331	50.595	50.510	0	101.105	23.084	124.189
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	239.316	239.316	0	239.316
Total for Activity 1AW351571B:						70.644	1.782.862	1.030.287	239.316	3.052.465	813.439	3.865.904

**Line Item 1AG351561A - FY01 Transport/Stage for Repack**

**BOE**

Staging Fluorides in CSV Estimate Basis: The estimate includes funding for moving any fluorides that do not currently reside in 371. It is assumed that most of the fluoride material was identified and moved previously. Some funding is being included to account for the movement of any remaining Fluorides discovered during the life of this project. The FY01 and 02 estimate is planned to be 10% of the baseline costs.

Assumptions: It is assumed that the transfer of material from other buildings can be made in a timely manner with minimal interference. It is also assumed that moving the material into the CSV will not result in more than 15 drums of waste (assumes that the 10 gallon containers can be free released) and that the cost per drum will not exceed \$5,000.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	R100S	RMRS Salaried	Linear	1.08	Hours
Factors	1.08 hrs							
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	R100S	RMRS Salaried	Linear	14.40	Hours
Factors	14.4 hrs							
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	0.72	Hours
Factors	0.72 hrs							
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	135.00	Hours
Factors	135 hrs							
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	9.00	Hours
Factors	9 hrs							
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	234.00	Hours
Factors	234 hrs							
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	1.80	Hours
Factors	1.8 hrs							
750	STRAIGHT TIME BASE	P140	SAFEGUARDS AND OTHER SECURI	SA01S	SSOC 371 Closure Project	Linear	40.50	Hours
Factors	40.5 hrs							
750	STRAIGHT TIME BASE	P140	SAFEGUARDS AND OTHER SECURI	SA01S	SSOC 371 Closure Project	Linear	22.50	Hours
Factors	22.5 hrs							
750	STRAIGHT TIME BASE	P140	SAFEGUARDS AND OTHER SECURI	W102S	Operations/Training	Linear	22.50	Hours
Factors	22.5 hrs							

WBS No: 1AAG  
Activity ID: 1AW351571B

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
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1AAG  
\*

Starts In FY \*

750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KE10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	22.5 hrs		0 5/31 M.S. Dbl Bdat					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KE10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	8.1 hrs		0 5/31 M.S. Dbl Bdat					
A52	TENERA	0000	NONE	R100S	RMRS Salaried	Linear	6,904.00	Dollars
Factors	6904 \$							
A52	TENERA	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	1,827.00	Dollars
Factors	1827 \$							

**Line Item 1AG351570B - Prep for Fluorides Repack Operations**

BOE	Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 14 operators and 2 Foreman per week of processing.
	Assumptions: It is assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum.

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	80.00	Hours
Factors	40 hrs/wk	2 shifts	1 st frmn/shift			
750	STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	560.00	Hours
Factors	35 hrs/wk	2 shifts	8 st ops/shift			
751	OVERTIME BASE & PRE.	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	16.00	Hours
Factors	8 hrs/wk	2 shifts	1 ot frmn/shift			
751	OVERTIME BASE & PRE.	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	96.00	Hours
Factors	6 hrs/wk	2 shifts	8 ot ops/shift			

**Line Item 1AG3515711 - FY01 GB32 Repack-540 Cans**

BOE	Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 14 operators and 2 Foreman per week of processing.
	Assumptions: It is assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum.

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	SA01S SSOC 371 Closure Project	Linear	0.00	Hours
Factors	10 hrs/wk-shft	0 shifts				
750	STRAIGHT TIME BASE	E130 OTHER ENGINEERS	SA01S SSOC 371 Closure Project	Linear	0.00	Hours
Factors	100 hrs/wk-shft	0 shifts				
750	STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	80.00	Hours
Factors	40 hrs/wk	2 shifts	1 st frmn/shift			
750	STRAIGHT TIME BASE	P050 COMPLIANCE INSPECTORS	SA01S SSOC 371 Closure Project	Linear	0.00	Hours
Factors	20 hrs/wk-shft	0 shifts				
750	STRAIGHT TIME BASE	P070 COST ESTIMATORS PLANNERS AN	SA01S SSOC 371 Closure Project	Linear	0.00	Hours
Factors	8 hrs/wk-shft	0 shifts				
750	STRAIGHT TIME BASE	P140 SAFEGUARDS AND OTHER SECURI	SA01S SSOC 371 Closure Project	Linear	160.00	Hours
Factors	80 hrs/wk-shft	2 shifts	1 s126s/t110			
750	STRAIGHT TIME BASE	P170 OTHER ADMINISTRATIVE & PROFE	SA01S SSOC 371 Closure Project	Linear	0.00	Hours
Factors	20 hrs/wk-shft	0 shifts				
750	STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	525.00	Hours
Factors	35 hrs/wk	2 shifts	7.5 st ops/shift			
751	OVERTIME BASE & PRE.	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	16.00	Hours
Factors	8 hrs/wk	2 shifts	1 ot frmn/shift			
751	OVERTIME BASE & PRE.	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	105.00	Hours
Factors	7 hrs/wk	2 shifts	7.5 ot ops/shift			
A5C	SUPPLIES	0000 NONE	SA01S SSOC 371 Closure Project	Linear	10,000.00	Dollars
Factors	10000 \$/drum-shft	1 shifts				

**Line Item 1AG351571C - FY01 Lab Sampling**

BOE	Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 20 operators and 2 Foreman for a total of 20,572 hours and 2057 respectively. This includes a week for start up, a week for shut down, and 208 days for operations. In addition, the estimate includes 400 hours for waste
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WBS No: 1AAG  
Activity ID: 1AW351571B

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

management support, 550 hours for maintenance, \$5,000 per drum for processing 104 waste drums, 2,000 hours for overtime, and 3000 hrs for 2 months for packaging support for 10 operators and 1 foreman.

Assumptions: It is assumed that operations can process 2 kg's per shift. A building availability factor of 75% was used in the calculations. Some of the material will require calcination, but will not prevent operations from processing 2 kg's day. It is also assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum.

Resources		Cost Element		Skill		Department		Curve	Quantity	Units
A5C	SUPPLIES		0000	NONE		SA01S	SSOC 371 Closure Project	Linear	67.500.00	Dollars
Factors	45	samples/shift		1500	\$/sample					
A5H	SUBCONTRACTED SRVS		0000	NONE		SA01S	SSOC 371 Closure Project	Linear	12.000.00	Dollars
Factors	120	hrs/shift		100	\$/hr					

**Line Item 1AG351571D - FY01 NMH&P Support**

**BOE** Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 2 NMH&P personnel per week of processing.

Assumptions: It is assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum.

Resources		Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		M010	FOREMEN / TEAM LEADS / GROUP		SA01S	SSOC 371 Closure Project	Linear	40.00	Hours
Factors	20	hrs/wk-shft		2	shifts		1 NMH&P Frmn			
750	STRAIGHT TIME BASE		R010	CHEMICAL SYSTEMS OPERATOR (		KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	40	hrs/wk-shft		2	shifts		2 NMH&P Op	0	5/31 M.S. Dbl Bdat	

**Line Item 1AG351581A - FY01 Shipping Support**

**BOE** 6.3 Shipping: Shipment of material to WIPP is the responsibility of RMRS. Support for the shipment of packaged fluorides has been included to provide information on the packaging process (configuration, packaging schedule, specific problems encountered during processing, paperwork issues, etc.). The estimate includes  
1/2 FTE for project support (a technical person in Wet group) for 14 weeks.  
1 Forman and 3 operators for 14 weeks + 10% OT.

Assumptions: The shipment costs will not increase prior to initiating shipments.

Resources		Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		M010	FOREMEN / TEAM LEADS / GROUP		SA01S	SSOC 371 Closure Project	Linear	0.00	Hours
Factors	40	hrs/wk-shft		0	shifts		1 st frmn/shft			
750	STRAIGHT TIME BASE		R010	CHEMICAL SYSTEMS OPERATOR (		KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	40	hrs/wk-shft		0	shifts		3 st ops/shft			
751	OVERTIME BASE & PRE.		M010	FOREMEN / TEAM LEADS / GROUP		SA01S	SSOC 371 Closure Project	Linear	0.00	Hours
Factors	4	hrs/wk-shft		0	shifts		1 st frmn/shft			
751	OVERTIME BASE & PRE.		R010	CHEMICAL SYSTEMS OPERATOR (		KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors	4	hrs/wk-shft		0	shifts		3 st ops/shft			

**Line Item Mtce. - Maintenance Planning**

**BOE** Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 50 hours per week of processing to cover 2 maintenance tasks a month at 100 hours per task.

Resources		Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		E070	MECHANICAL ENGINEERS		SA01S	SSOC 371 Closure Project	Linear	13.80	Hours
Factors	60	hours/mo		0.23	mo/wk					
750	STRAIGHT TIME BASE		E080	NUCLEAR (CRITICALITY) ENGINEER		SA01S	SSOC 371 Closure Project	Linear	13.80	Hours
Factors	60	hours/mo		0.23	mo/wk					
A57	LATA		P070	COST ESTIMATORS PLANNERS AN		SA01S	SSOC 371 Closure Project	Linear	993.60	Dollars
Factors	1	Planner		60	hours/mo		0.23 mo/wk	72	\$/hour	
A58	ASI		0000	NONE		SA01S	SSOC 371 Closure Project	Linear	54.00	Dollars
Factors	12	Dollars/Day		4.5	day/week					

**Line Item SYS - Contingency And Escalation**

**BOE**

WBS No: 1AAG  
Activity ID: 1AW351571B

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

Resources		Cost Element	Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	148.253.30	Dollars
Factors		148253 Dollars							
ESC	ESCALATION		0000	NONE	ZDEPT	No Department	Linear	91.062.60	Dollars
Factors		91062.6 Dollars							

Activity ID: 1AW351572A Description: FY02 Fluorides GB 32 Repack Operations/Mtce.

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1AG351562A	FY02 Transport/Stage for Repack	16.71	wk	BM	482	8.047	220.922	145.907	0	366.828	77.985	444.813
1AG3515722	FY02 GB32 Repack-141 Cans	16.71	wk	BM	944	15.775	367.347	0	0	367.347	129.673	497.020
1AG351572C	FY02 Lab Sampling	1.93	ea	BM	0	0	0	153.324	0	153.324	0	153.324
1AG351572D	FY02 NMH&P Support	16.71	wk	BM	40	668	18.456	0	0	18.456	6.515	24.971
1AG351582A	FY02 Shipping Support	6.75	each	BM	0	0	0	0	0	0	0	0
Mtce.	Maintenance Planning	16.71	wk	BM	28	461	17.536	17.507	0	35.043	6.190	41.233
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	175.369	175.369	0	175.369
Total for Activity 1AW351572A:						24.952	624.260	316.737	175.369	1.116.367	220.364	1.336.731

**Line Item 1AG351562A - FY02 Transport/Stage for Repack**

**BOE**

Staging Fluorides in CSV Estimate Basis: The estimate includes funding for moving any fluorides that do not currently reside in 371. It is assumed that most of the fluoride material was identified and moved previously. Some funding is being included to account for the movement of any remaining Fluorides discovered during the life of this project. The FY01 and 02 estimate is planned to be 10% of the baseline costs.

Assumptions: It is assumed that the transfer of material from other buildings can be made in a timely manner with minimal interference. It is also assumed that moving the material into the CSV will not result in more than 15 drums of waste (assumes that the 10 gallon containers can be free released) and that the cost per drum will not exceed \$5,000.

Resources		Cost Element	Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		E130	OTHER ENGINEERS	R100S	RMRS Salaried	Linear	14.40	Hours
Factors		14.4 hrs							
750	STRAIGHT TIME BASE		E130	OTHER ENGINEERS	R100S	RMRS Salaried	Linear	1.08	Hours
Factors		1.08 hrs							
750	STRAIGHT TIME BASE		E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	0.72	Hours
Factors		0.72 hrs							
750	STRAIGHT TIME BASE		M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	135.00	Hours
Factors		135 hrs							
750	STRAIGHT TIME BASE		M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	9.00	Hours
Factors		9 hrs							
750	STRAIGHT TIME BASE		M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	234.00	Hours
Factors		234 hrs							
750	STRAIGHT TIME BASE		M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project	Linear	1.80	Hours
Factors		1.8 hrs							
750	STRAIGHT TIME BASE		P140	SAFEGUARDS AND OTHER SECURI	SA01S	SSOC 371 Closure Project	Linear	40.50	Hours
Factors		40.5 hrs							
750	STRAIGHT TIME BASE		P140	SAFEGUARDS AND OTHER SECURI	SA01S	SSOC 371 Closure Project	Linear	22.50	Hours
Factors		22.5 hrs							
750	STRAIGHT TIME BASE		P140	SAFEGUARDS AND OTHER SECURI	W102S	Operations/Training	Linear	22.50	Hours
Factors		22.5 hrs							
750	STRAIGHT TIME BASE		T050	RADIATION CONTROL TECHNOLOGI	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors		22.5 hrs 0 5/31 MS Dbl. Budget							
750	STRAIGHT TIME BASE		T060	D&D HAZ REDUC TECH / RISK RED	KF10H	Matl Steward Steel Workers	Linear	0.00	Hours
Factors		8.1 hrs 0 5/31 MS Dbl. Budget							
A52	TENERA		0000	NONE	R100S	RMRS Salaried	Linear	6.904.00	Dollars
Factors		6904 \$							
A52	TENERA		0000	NONE	SA01S	SSOC 371 Closure Project	Linear	1.827.00	Dollars
Factors		1827 \$							

WBS No: 1AAG  
Activity ID: 1AW351572A

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

**Line Item 1AG3515722 - FY02 GB32 Repack-141 Cans**

<b>BOE</b>		Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 14 operators and 2 Foreman per week of processing.  Assumptions: It is assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum.									
<b>Resources</b>		<i>Cost Element</i>		<i>Skill</i>		<i>Department</i>		<i>Curve</i>		<i>Quantity</i>	<i>Units</i>
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	SA01S	SSOC 371 Closure Project		Linear		0.00	Hours
	<i>Factors</i>	10 hrs/wk-shft		0 shifts							
	750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project		Linear		0.00	Hours
	<i>Factors</i>	100 hrs/wk-shft		0 shifts							
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project		Linear		80.00	Hours
	<i>Factors</i>	40 hrs/wk-shft		2 shifts		1 st frmn/shft					
	750	STRAIGHT TIME BASE	P050	COMPLIANCE INSPECTORS	SA01S	SSOC 371 Closure Project		Linear		0.00	Hours
	<i>Factors</i>	20 hrs/wk-shft		0 shifts							
	750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	SA01S	SSOC 371 Closure Project		Linear		0.00	Hours
	<i>Factors</i>	8 hrs/wk-shft		0 shifts							
	750	STRAIGHT TIME BASE	P140	SAFEGUARDS AND OTHER SECURI	SA01S	SSOC 371 Closure Project		Linear		160.00	Hours
	<i>Factors</i>	80 hrs/wk-shft		2 shifts		1 s126s/t110					
	750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	SA01S	SSOC 371 Closure Project		Linear		0.00	Hours
	<i>Factors</i>	20 hrs/wk-shft		0 shifts							
	750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers		Linear		592.00	Hours
	<i>Factors</i>	37 hrs/wk		2 shifts		8 st ops/shift					
	751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project		Linear		16.00	Hours
	<i>Factors</i>	8 hrs/wk		2 shifts		1 ot frmn/shft					
	751	OVERTIME BASE & PRE.	R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers		Linear		96.00	Hours
	<i>Factors</i>	6 hrs/wk-shft		2 shifts		8 ot ops/shift					
	A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Project		Linear		0.00	Dollars
	<i>Factors</i>	10000 \$/drum-shft		0 shifts							

**Line Item 1AG351572C - FY02 Lab Sampling**

<b>BOE</b>		Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 20 operators and 2 Foreman for a total of 20,572 hours and 2057 respectively. This includes a week for start up, a week for shut down, and 208 days for operations. In addition, the estimate includes 400 hours for waste management support, 550 hours for maintenance, \$5,000 per drum for processing 104 waste drums, 2,000 hours for overtime, and 3000 hrs for 2 months for packaging support for 10 operators and 1 foreman.  Assumptions: It is assumed that operations can process 2 kg's per shift. A building availability factor of 75% was used in the calculations. Some of the material will require calcination, but will not prevent operations from processing 2 kg's day. It is also assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum.									
<b>Resources</b>		<i>Cost Element</i>		<i>Skill</i>		<i>Department</i>		<i>Curve</i>		<i>Quantity</i>	<i>Units</i>
	A5C	SUPPLIES	0000	NONE	SA01S	SSOC 371 Closure Project		Linear		67,500.00	Dollars
	<i>Factors</i>	45 samples/shift		1500 \$/sample							
	A5H	SUBCONTRACTED SRVS	0000	NONE	SA01S	SSOC 371 Closure Project		Linear		12,000.00	Dollars
	<i>Factors</i>	120 hrs/shift		100 \$/hr							

**Line Item 1AG351572D - FY02 NMH&P Support**

<b>BOE</b>		Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 1/2 time for a crew of 4 NMH&P and one Forman for move support. This would be for 56 weeks in FY 01 and 02.  Assumptions: It is assumed that the process will not produce more than 104 drums of secondary waste, and that the cost per drum of processing these drums will not exceed \$5,000 per waste drum.									
<b>Resources</b>		<i>Cost Element</i>		<i>Skill</i>		<i>Department</i>		<i>Curve</i>		<i>Quantity</i>	<i>Units</i>
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	SA01S	SSOC 371 Closure Project		Linear		40.00	Hours
	<i>Factors</i>	20 hrs/wk-shft		2 shifts		1 NMH&P Frmn					
	750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KF10H	Matt Steward Steel Workers		Linear		0.00	Hours
	<i>Factors</i>	40 hrs/wk-shft		2 shifts		2 NMH&P Op		0	5/31 MS Dbl. Budget		

WBS No: 1AAG  
Activity ID: 1AW351572A

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

**Line Item 1AG351582A - FY02 Shipping Support**

BOE	6.3 Shipping: Shipment of material to WIPP is the responsibility of RMRS. Support for the shipment of packaged fluorides has been included to provide information on the packaging process (configuration, packaging schedule, specific problems encountered during processing, paperwork issues, etc.). The estimate includes 1/2 FTE for project support (a technical person in Wet group) for 14 weeks. 1 Forman and 3 operators for 14 weeks + 10% OT.  Assumptions: The shipment costs will not increase prior to initiating shipments.
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	0.00	Hours
Factors	40	hrs/wk-shft	0 shifts	1 st frmn/shft			
	750	STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	0.00	Hours
Factors	40	hrs/wk-shft	0 shifts	3 st ops/shft			
	751	OVERTIME BASE & PRE.	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	0.00	Hours
Factors	4	hrs/wk-shft	0 shifts	1 st frmn/shft			
	751	OVERTIME BASE & PRE.	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	0.00	Hours
Factors	4	hrs/wk-shft	0 shifts	3 st ops/shft			

**Line Item Mtce. - Maintenance Planning**

BOE	Fluoride Packaging Estimate Basis: The Fluoride Repackaging effort will require 50 hours per week of processing to cover 2 maintenance tasks a month at 100 hours per task.
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E070 MECHANICAL ENGINEERS	SA01S SSOC 371 Closure Project	Linear	13.80	Hours
Factors	60	hours/mo	0.23 mo/wk				
	750	STRAIGHT TIME BASE	E080 NUCLEAR (CRITICALITY) ENGINEER	SA01S SSOC 371 Closure Project	Linear	13.80	Hours
Factors	60	hours/mo	0.23 mo/wk				
	A57	LATA	P070 COST ESTIMATORS PLANNERS AN	SA01S SSOC 371 Closure Project	Linear	993.60	Dollars
Factors	1	Planner	60 hours/mo	0.23 mo/wk	72 \$/hour		
	A58	ASI	0000 NONE	SA01S SSOC 371 Closure Project	Linear	54.00	Dollars
Factors	12	Dollars/Day	4.5 day/week				

**Line Item SYS - Contingency And Escalation**

BOE										
Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	121.097.00	Dollars
	Factors 121097 Dollars									
	ESC	ESCALATION		0000	NONE	ZDEPT	No Department	Linear	54.272.09	Dollars
	Factors 54272.1 Dollars									

Activity ID: 1AWA00032P Description: Wet Comb./Sludges Administrative Preps.

Cost Risk 2 Schedule Risk 2

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
Q32a	Process Control Plan	0.18	ea	HC	0	0	0	31.453	0	31.453	0	31.453
Q32b	Procedures Modifications	0.18	each	HC	0	0	0	2.772	0	2.772	0	2.772
Q32c	NMSL Modifications	0.18	each	HC	600	108	4.691	0	0	4.691	2.289	6.980
Q32d	Job Hazard Analysis	0.18	each	HC	450	81	3.017	0	0	3.017	1.472	4.489
Q32e	ALARA Review	0.18	each	HC	300	54	1.489	0	0	1.489	727	2.216
Q32f	V&V Procedures	0.18	each	HC	0	0	0	2.772	0	2.772	0	2.772
Q32g	Mockup Training	0.18	each	HC	440	79	1.667	0	0	1.667	814	2.481
Q32h	Acceptable Knowledge Submittal	0.18	each	HC	80	14	494	0	0	494	241	736
Total for Activity 1AWA00032P:						338	11.359	36.997	0	48.356	5.543	53.899

**Line Item 032a - Process Control Plan**

BOE	Historical Data Source - FY99 Wet Combustibles Process Control Plan Item Desc - Process Control Plan Breakdown of Historical Data:
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WBS No: 1AAG  
Activity ID: 1AWA00032P

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

Item - FY99 Wet Combustibles Process Control Plan  
Units - Each  
Unit Cost - \$174K  
Unit Cost Adjustment factor - 1.00  
Revised Unit Cost - n/a  
Basis for adjustment - n/a

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
A52	TENERA	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	174.085.70	Dollars
Factors	1.02283 -- FY00 Escalation -- 0.5 Half-time	2	Engineers	1850	Hrs	92	\$/Hr	

**Line Item 032b - Procedures Modifications**

**BOE**

Historical Data Source - FY99 Fluorides Procedure Modifications  
Item Desc - Procedure Modifications  
Breakdown of Historical Data:  
Item - FY99 Fluorides Procedure Modifications  
Units - Each  
Unit Cost - \$15K  
Unit Cost Adjustment factor - 1.00  
Revised Unit Cost - n/a  
Basis for adjustment - n/a

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
A57	LATA	0000	NONE	SA01S	SSOC 371 Closure Project	Linear	14.319.62	Dollars
Factors	1 Procedure Writer	200	hours	1.02283 -- FY00 Escalation --	70	\$/hour		
A58	ASI	0000	NONE	K777C	Construction	Linear	1.022.83	Dollars
Factors	1.02283 -- FY00 Escalation --	50	\$/hour	20	hours			

**Line Item 032c - NMSL Modifications**

**BOE**

Historical Data Source - FY99 Fluorides NMSL Modifications  
Item Desc - NMSL Modifications  
Breakdown of Historical Data:  
Item - FY99 Fluorides NMSL Modifications  
Units - Each  
Unit Cost - \$30K  
Unit Cost Adjustment factor - 1.00  
Revised Unit Cost - n/a  
Basis for adjustment - n/a

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	600.00	Hours
Factors	1 Crit. Engineer	4	mos.	150	hour/month			

**Line Item 032d - Job Hazard Analysis**

**BOE**

Historical Data Source - FY99 Fluorides Job Hazard Analysis  
Item Desc - Job Hazard Analysis  
Breakdown of Historical Data:  
Item - FY99 Fluorides Job Hazard Analysis  
Units - Each  
Unit Cost - \$23K  
Unit Cost Adjustment factor - 1.00  
Revised Unit Cost - n/a  
Basis for adjustment - n/a

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	SA01S	SSOC 371 Closure Project	Linear	150.00	Hours
Factors	1 month	150	hrs/month					
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	150.00	Hours
Factors	1 month	150	hrs/month					
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	SA01S	SSOC 371 Closure Project	Linear	150.00	Hours
Factors	1 month	150	hrs/month					



WBS No: 1AAG  
Activity ID: 1AWA00032P

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \*

Starts In FY \*

**Line Item 032e - ALARA Review**

BOE	Historical Data Source - FY99 Fluorides ALARA Review Item Desc - ALARA Review Breakdown of Historical Data: Item - FY99 Fluorides ALARA Review Units - Each Unit Cost - \$15K Unit Cost Adjustment factor - 1.00 Revised Unit Cost - n/a Basis for adjustment - n/a					
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E130 OTHER ENGINEERS	SA01S SSOC 371 Closure Project	Linear	150.00	Hours
Factors	1	month	150	hrs/month			
	750	STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLOGI	KA10H 371 Complex Steelworkers	Linear	150.00	Hours
Factors	1	month	150	hrs/month			

**Line Item 032f - V&V Procedures**

BOE	Historical Data Source - FY99 Fluorides V&V Procedures Item Desc - V&V Procedures Breakdown of Historical Data: Item - FY99 Fluorides V&V Procedures Units - Each Unit Cost - \$15K Unit Cost Adjustment factor - 1.00 Revised Unit Cost - n/a Basis for adjustment - n/a					
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
	A57	LATA	0000 NONE	SA01S SSOC 371 Closure Project	Linear	14.319.62	Dollars
Factors	1.02283	-- FY00 Escalation --	1	Procedure Writer	200	hours	70 \$/hour
	A58	ASI	0000 NONE	K777C Construction	Linear	1.022.83	Dollars
Factors	1.02283	-- FY00 Escalation --	50	\$/hour	20	hours	

**Line Item 032g - Mockup Training**

BOE	Historical Data Source - FY99 Wet Combustibles Mockup Training Item Desc - Mockup Training Breakdown of Historical Data: Item - FY99 Wet Combustibles Mockup Training Units - Each Unit Cost - \$220K Unit Cost Adjustment factor - 0.10 Revised Unit Cost - \$22K Basis for adjustment - Mockup training will be very brief because the crew is already trained in Fluorides procedures. A short period of training is necessary for sludge-specific issues.					
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	SA01S SSOC 371 Closure Project	Linear	40.00	Hours
Factors	1	Foreman	1	week40	40	hours/week	
	750	STRAIGHT TIME BASE	R010 CHEMICAL SYSTEMS OPERATOR (	KA40H 371 Wet Combustibles Steelworkers	Linear	400.00	Hours
Factors	10	Process Specialists	1	week	40	hours/week	

**Line Item 032h - Acceptable Knowledge Submittal**

BOE	Historical Data Source - FY99 Wet Combustibles Item Desc - Acceptable Knowledge Breakdown of Historical Data: Item - FY99 Wet Combustibles Acceptable Knowledge Units - Each Unit Cost - \$4K Unit Cost Adjustment factor - 1.00 Revised Unit Cost - n/a Basis for adjustment - n/a					
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
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WBS No: 1AAG  
Activity ID: 1AWA00032P

Rockv Flats Closure Project  
Baseline Cost and Basis of Estimate

Project Baseline Devl  
WBS Filter 1AAG  
Activity Filter \* Starts In FY \*

750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	SA01S	SSOC 371 Closure Project	Linear	80.00	Hours
Factors	1	Engineer	2	weeks	40	hours/week		

Activity ID: 1AWA007251 Description: Train Wet Combustibles Addtl. Ops. Personnel Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Train Ops Personnel	0.08	each	HC	18.200	1.447	29.385	0	0	29.385	14.340	43.726
Total for Activity 1AWA007251:						1.447	29.385	0	0	29.385	14.340	43.726

Line Item 1 - Train Ops Personnel

BOE	Historical Data Source - FY99 Operator Training Item Desc - Operator Initial Training Breakdown of Historical Data: Item - Operator Training Units - 10 Operators, 1 Supervisor, 2 RCTs Unit Cost - 13 FTEs for Six Months Unit Cost Adjustment factor - 1.00 Revised Unit Cost - n/a Basis for adjustment - n/a
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Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE		R010	CHEMICAL SYSTEMS OPERATOR (	KA40H	371 Wet Combustibles Steelworkers	Linear	18.200.00	Hours
	Factors	10	PS	1820	hrs/vr					

Report Totals:

Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
315.782	7.615.229	8.292.982	1.384.940	17.293.151	3.339.215	20.632.366